

**GENERAL SITE CONSTRUCTION NOTES**

- GENERAL NOTES ARE FOR TYPICAL CONSTRUCTION ACTIVITIES AND MAY INCLUDE INFORMATION NOT APPLICABLE TO THE SCOPE OF WORK.
- CALL "MISS UTILITY" (202-265-7177 OR 811) PRIOR TO THE START OF CONSTRUCTION SO THAT EXISTING UTILITIES CAN BE FIELD-MARKED. COMPLY WITH MISS UTILITY REQUIREMENTS FOR UTILITY LOCATION.
- ALL EXISTING UTILITIES MAY NOT BE INDICATED ON THE PLANS. AS A FIRST STEP IN CONSTRUCTION, PROVIDE UTILITY DESIGNATIONS FOR ALL AREAS WITHIN THE LIMITS OF EXCAVATION TO DETERMINE LOCATIONS OF EXISTING UTILITIES. EXCAVATE TEST PITS FOR UTILITIES TO REMAIN TO DETERMINE LOCATION AND ELEVATION. VERIFY EXISTING UTILITIES WILL NOT CONFLICT WITH THE PROPOSED WORK. NOTIFY THE ENGINEER IF EXISTING UTILITIES CONFLICT WITH THE PROPOSED WORK.
- AMT, LLC AND THE ENGINEER OF RECORD ARE NOT RESPONSIBLE FOR JOB SITE SAFETY, SUPERVISION, OR ANY DAMAGE OR INJURY SUSTAINED DURING CONSTRUCTION BY ANY PERSON, VEHICLES OR EQUIPMENT USED ON OR ADJACENT TO THE SITE.
- CONTRACTOR SHALL ENGAGE A DC-LICENSED SURVEYOR TO FIELD VERIFY PROJECT PROPERTY BOUNDARY FOR CONSTRUCTION PER DC AGENCY STANDARDS AND COMPLY WITH ALL REQUIRED BUILDING INSPECTIONS. NOTIFY THE ENGINEER IF DISCREPANCIES EXIST WITH THE PLANS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL DC AGENCY PERMITS NOT PROVIDED WITH THE CONSTRUCTION DOCUMENTS, INCLUDING WORK REQUIRED TO OBTAIN PERMITS, PERMIT PROCESSING, INSPECTIONS, AND PERMIT CLOSEOUTS.
- REFER TO THE TECHNICAL SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS.
- CODES AND STANDARDS INCLUDED ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND DO NOT NECESSARILY REPRESENT THE MOST CURRENT OR COMPLETE STANDARDS REQUIRED TO INSTALL THE WORK. REFER TO APPLICABLE CODES AND STANDARDS AT ALL TIMES.
- MAKE FIELD ADJUSTMENTS AS NECESSARY TO MEET EXISTING CONDITIONS WHEN AUTHORIZED BY THE OWNER'S REPRESENTATIVE.
- MAINTAIN A WORKING COPY OF CONSTRUCTION PLANS HAND-MARKED IN RED WITH ALL CONSTRUCTED FEATURES, ACCURATELY MEASURED, THAT DEVIATE FROM THE APPROVED CONSTRUCTION PLANS. THIS SET OF RECORD "AS-BUILT" DRAWINGS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT THE COMPLETION OF CONSTRUCTION.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
- MAINTAIN FIRE DEPARTMENT, EMERGENCY, SERVICE, DELIVERY, AND PEDESTRIAN (INCLUDING ADA) ACCESS TO THE SURROUNDING AREA. MAINTAIN ACCESS TO EXISTING FIRE HYDRANTS IN AND ADJACENT TO THE SITE.
- CONTRACTOR SHALL PROVIDE & MAINTAIN PERMANENT SECURITY AT ALL SITES FOR THE LENGTH OF CONSTRUCTION. COORDINATE TEMPORARY PERIMETER SECURITY MEASURES WITH THE OWNER.

**PUBLIC SPACE GENERAL NOTES (IF APPLICABLE)**

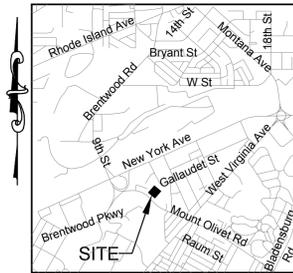
- ALL CONSTRUCTION IN THE RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARDS AND SPECIFICATIONS INCLUDING:
  - DC DEPARTMENT OF TRANSPORTATION (DDOT)
  - DC WATER AND SEWER AUTHORITY (DC WATER)
  - DC DEPARTMENT OF THE ENVIRONMENT (DDOE)
- ALL WORK IN PUBLIC SPACE SHALL BE SUBJECT TO A DDOT PUBLIC SPACE PERMIT.
- ALL RESTORATION IN PUBLIC SPACE SHALL BE IN ACCORDANCE WITH DDOT'S STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES, LATEST EDITION.
- ALL EXISTING ROADWAY SIGNS, PARKING METERS, AND TRAFFIC CONTROLS SHALL REMAIN OPERATIONAL AND VISIBLE DURING ALL PHASES OF CONSTRUCTION UNLESS OTHERWISE APPROVED BY DDOT. REMOVE, REPLACE, OR RELOCATE EXISTING SIGNS AFFECTED BY THE WORK WITH DDOT APPROVAL.
- ALL WORK WITHIN EXISTING PUBLIC-SPACE AREAS SHALL BE PROPERLY CORDONED OFF WITH APPROPRIATE SAFETY AND TRAFFIC CONTROLS IN ACCORDANCE WITH THE CURRENT "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" STANDARDS AND THE DC TEMPORARY TRAFFIC CONTROL MANUAL. CONTRACTOR SHALL OBTAIN A DDOT-APPROVED MAINTENANCE OF TRAFFIC PLAN AND ASSOCIATED PUBLIC SPACE PERMIT AS REQUIRED FOR OCCUPYING PUBLIC SPACE.
- REMOVE ALL PUBLIC SPACE FEATURES AS REQUIRED TO INSTALL THE PROPOSED PROJECT'S WORK AND REPLACE PER DDOT STANDARDS. LIMITS OF REMOVAL AND REPLACEMENT MAY NOT BE FULLY SHOWN ON THE PLANS, AND ARE APPROXIMATE IF SHOWN.
- REINSTALL OR REPLACE ALL ROAD SIGNS (STOP SIGNS, TRAFFIC SIGNS, PARKING SIGNS, ETC.) AFFECTED BY THE PROPOSED WORK. COORDINATE NEW OR ADJUSTED SIGNS WITH THE DDOT INSPECTOR.
- CONTACT THE DDOT INSPECTOR TO DETERMINE IF PUBLIC SPACE FEATURES (STREET LIGHTS, BENCHES, TRASH CANS, STONE CURBING, ETC.) SHOWN TO BE DEMOLISHED ARE REQUIRED TO BE SALVAGED. FOLLOW DDOT PROCEDURES FOR SALVAGED ITEMS.

**GRADING & DRAINAGE NOTES**

- MAINTAIN EXISTING DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. PROVIDE TEMPORARY FACILITIES, PUMPING ARRANGEMENTS, AND/OR CONNECTIONS AS REQUIRED TO MAINTAIN DRAINAGE.
- SITE GRADING AND PAVING WORK SHALL BE DONE IN SUCH A MANNER TO INSURE POSITIVE DRAINAGE TO ALL EX. AND NEW STORM DRAIN INLETS, AND PREVENT PONDING ON FINISHED SURFACES WITH NO LOW POINTS WHERE THERE ARE NO NEW INLETS/DRAINS TO LET RUNOFF ENTER THE BELOW GRADE SYSTEM.
- SPOT ELEVATIONS SHOWN AS TYING INTO EXISTING PAVING ARE BASED ON THE FINISHED FLOOR ELEVATION OF THE BUILDING BEING SET AT 125.00. THE CONTRACTOR SHALL USE THIS ELEVATION AS THE DATUM FOR ALL NEW SPOT ELEVATIONS AND GRADES INDICATED ON THIS PLAN. ANY DISCREPANCIES SHALL BE PROVIDED TO THE DESIGN ENGINEER. CONTRACTOR SHALL MATCH EXISTING GRADES AT THE DOORS AND PROVIDE SMOOTH TRANSITION WHERE TYING PROPOSED WORK TO EXISTING GRADE.
- ADA ACCESSIBLE ROUTES SHALL BE INSTALLED WITHIN 2% MAX CROSS SLOPE IN ALL DIRECTION EXCEPT AT THE SYNTHETIC TURF AREA.
- NEW CONCRETE PAVERS/WALK AREAS SHALL HAVE A CROSS SLOPE MIN 1%, MAX 2% TO DRAIN AS SHOWN ON THE DRAWING, OR WHERE NOT INDICATED, TOWARD THE GENERAL DRAINAGE DIRECTION.
- THE TOP GRATES OF THE TWO INLETS SHALL BE REMOVED AND ADJUSTMENTS TO STRUCTURE SHALL BE MADE TO ENABLE NEW TRENCH DRAINS TO CONNECT TO EXISTING STRUCTURE. SEE UTILITY PLAN FOR ADDITIONAL INFORMATION. ASSURE NEW TRENCH DRAIN GRATES ARE SET FLUSH WITH FINISHED CONCRETE WALK ELEVATIONS.
- STABILIZE ALL NON-PAVED AREAS WITH PERMANENT SEEDING OR SOD PER THE SPECIFICATIONS AS NEEDED. SEE SEDIMENT CONTROL PLANS FOR ADDITIONAL INFORMATION.
- THE ONSITE CONCRETE PAVERS SHALL BE PER THE DETAILS SHOWN ON CIVIL C-4.1 AND C-4.2.

**DYRS COURTYARD & GYMNASIUM RENOVATION**

**LOCATION OF SITE  
1000 MOUNT OLIVET ROAD, NE  
SQUARE 4049  
LOT 0034  
WASHINGTON, DISTRICT OF COLUMBIA**



VICINITY MAP  
SCALE: 1"=2000'

SHEET INDEX	
SHEET TITLE	SHEET NUMBER
COVER SHEET	C-0.0
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**ABBREVIATIONS & DEFINITIONS**

ASPH.	ASPHALT	ONSITE	ON THE PROJECT PROPERTY
CB	CATCH BASIN	OFFSITE	OFF THE PROJECT PROPERTY
CLF	CHAIN LINK FENCE	PROP.	PROPOSED
CO	CLEANOUT	SAN./S/SS	SANITARY SEWER
CONC.	CONCRETE	SCH	SCHEDULE
DIAM.	DIAMETER	SD	STORM DRAIN
E/ELEC.	ELECTRIC	STD.	STANDARD
ELEV.	ELEVATION	T	TELEPHONE
EX.	EXISTING	TYP.	TYPICAL
G	GAS	W	WATER
GM	GAS METER	W/	WITH
JB	JUNCTION BOX	WM	WATER METER
INV.	INVERT	WV	WATER VALVE
MAX.	MAXIMUM		
MIN.	MINIMUM		
MH	MANHOLE		

**DISTRICT AGENCIES**

DISTRICT DEPARTMENT OF ENERGY & ENVIRONMENT  
1200 FIRST STREET, NW  
WASHINGTON, DC 20002  
(202) 535-2600

DISTRICT DEPARTMENT OF CONSUMER & REGULATORY AFFAIRS  
1100 4TH STREET, SW  
WASHINGTON, DC 20024  
(202) 442-4400

**PROPERTY INFORMATION**

SQUARE 4049  
LOT = 0034  
AREA = 13680  
ZONING = R-4

**GENERAL UTILITY NOTES**

- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- THE CIVIL UTILITY PLAN APPLIES ONLY TO EXTERIOR WATER, STORM SEWER, AND SANITARY SEWER WORK. ALL OTHER EXTERIOR UTILITY WORK IS THE RESPONSIBILITY OF OTHERS AND, IF DEPICTED ON THE UTILITY PLAN, IS SHOWN AS APPROXIMATE.
- EXISTING UTILITIES MAY NOT BE INDICATED ON THE PLANS. AS A FIRST STEP IN CONSTRUCTION, TRACE ALL AREAS WITHIN EXCAVATION LIMITS TO DETERMINE EXISTING UTILITY LOCATIONS. EXCAVATE TEST PITS FOR UTILITIES TO REMAIN, TO DETERMINE LOCATION AND ELEVATION. NOTIFY THE ENGINEER IF EXISTING UTILITIES CONFLICT WITH PROPOSED WORK.
- CONTRACTOR SHALL CONFIRM EXISTING UTILITY LOCATIONS AND DEPTHS OF AT PROPOSED CROSSINGS AND CONNECTIONS, AS A FIRST STEP IN CONSTRUCTION, TO VERIFY PROPOSED UTILITY LAYOUT AND CONNECTIONS ARE VIABLE. CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE AS SOON AS ANY CONFLICTS ARE DISCOVERED.
- COMPLY WITH UTILITY OWNER'S REQUIREMENTS FOR UTILITY ABANDONMENT AND INSTALLATION.
- REMOVE ABANDONED UTILITIES AS REQUIRED FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- ADJUST ALL EXISTING & PROPOSED UTILITY COVERS (FRAME AND LIDS) WITHIN PROJECT LIMITS TO MATCH FINISHED GRADE ELEVATION AND SLOPE. ELEVATIONS INDICATED FOR PROPOSED UTILITY COVERS SHOWN ARE APPROXIMATE.
- INSTALL ADDITIONAL MANHOLE STEPS AS NEEDED IN EXISTING MANHOLES WITH COVERS TO BE RAISED, TO MAINTAIN CONSISTENT STEP DISTANCE.
- PHASE ALL UTILITY WORK TO MAINTAIN UTILITY SERVICES TO SURROUNDING AREAS DURING ALL PHASES OF DEMOLITION, EXCAVATION, AND CONSTRUCTION. LIMIT REQUIRED UTILITY SHUT-DOWNS IN NUMBER AND DURATION, AND COORDINATE THESE WITH THE UTILITY OWNER AND AFFECTED PARTIES.
- ALL WATER, SEWER, AND STORM WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH DC WATER STANDARDS AND SPECIFICATIONS.
- PREPARE AND SUBMIT UTILITY AS-BUILT PLANS TO DC WATER PER DC WATER REQUIREMENTS.
- RESTORE OR REPLACE EXISTING FEATURES DISTURBED BY THE UTILITY WORK, INCLUDING SURFACE PAVEMENT.
- ABANDON BUILDINGS' EXISTING WATER, SANITARY SEWER, AND STORM SEWER LATERALS WHICH ARE TO BE REMOVED FROM SERVICE PER DC WATER STANDARDS, INCLUDING (BUT NOT LIMITED TO) DISCONNECTION OF THE LATERAL AT THE UTILITY MAIN, PLUGGING/SEALING THE UTILITY MAIN, AND REMOVAL OF METERS, VALVES, APPURTENANCES, ETC. REFER TO DC WATER STANDARDS FOR ABANDONMENT PER TYPE OF LATERAL AND UTILITY MAIN AND COORDINATE WITH THE DC WATER INSPECTOR.
- LOCATE GATE VALVES FOR BUILDING SERVICES AS CLOSE TO THE WATER MAIN TEE AS POSSIBLE BASED ON FIELD LOCATION OF CONFLICTING EXISTING UTILITIES. COORDINATE WITH THE DC WATER INSPECTOR. PROVIDE DIP SWIVEL TEE (AWWA C111) ON EXISTING MAIN IF REQUIRED TO AVOID EXISTING UTILITIES.
- STORM DRAIN AND SANITARY SEWER BUILDING LATERALS SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE NOTED. CLEANOUTS SHALL MATCH THE PIPE DIAMETER AND SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS AND AT HORIZONTAL AND VERTICAL BENDS. WYE CONNECTIONS TO PUBLIC GRAVITY MAINS SHALL MATCH THE EXISTING PIPE MATERIAL; CONTRACTOR SHALL FIELD-VERIFY PRIOR TO ORDERING MATERIALS.
- REFER TO DC WATER GENERAL CONSTRUCTION NOTES FOR ADDITIONAL REQUIREMENTS.

**GENERAL SITE DEMOLITION NOTES**

- ITEMS TO BE ABANDONED OR DEMOLISHED ARE NOTED OR SHOWN BOLD/HATCHED ON THE DEMOLITION PLAN, BUT ARE SHOWN APPROXIMATE IN LOCATION AND SCALE. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND REPLACEMENT OF ALL EXISTING FEATURES AS REQUIRED FOR INSTALLATION OF PROPOSED IMPROVEMENTS. DEMOLITION OF ITEMS TO BE REMOVED AND REPLACED IN KIND (SUCH AS PAVEMENT FOR UTILITY INSTALLATION) IS NOT NECESSARILY DEPICTED ON THE DEMOLITION PLAN.
- COMPLY WITH UTILITY OWNER'S REQUIREMENTS FOR UTILITY DEMOLITION AND ABANDONMENT.
- SEE ARCHITECTURAL PLANS FOR ANY SELECTIVE DEMOLITION OF BUILDINGS TO REMAIN.
- SAWCUT EXISTING PAVEMENT TO BE REMOVED. SAWCUT AND REMOVE EXISTING CONCRETE SIDEWALKS AND CURB/GUTTER AT THE NEAREST JOINT.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES, BOTH HORIZONTALLY AND VERTICALLY, WITHIN THE LIMITS OF DISTURBANCE.
- DISCONNECT AND ABANDON UTILITY SERVICES FOR BUILDINGS/STRUCTURES TO BE RAZED OR RELOCATED PER DC WATER STANDARDS. DISCONNECTION OF PUBLIC WATER, SEWER, AND STORM UTILITIES FOR IS SUBJECT TO AN APPROVED DC WATER PERMIT/AVAILABILITY SLIP.
- DEMOLITION DEBRIS SHALL NOT BE USED FOR ONSITE BACKFILL MATERIAL UNLESS APPROVED BY THE PROPERTY OWNER AND GEOTECHNICAL ENGINEER. ALL OTHER DEMOLITION DEBRIS SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH ALL FEDERAL AND LOCAL APPLICABLE CODES AND REGULATIONS.
- CONTRACTOR IS RESPONSIBLE FOR THE STRUCTURAL STABILIZATION OF FEATURES TO BE DEMOLISHED AND AREAS ADJACENT TO DEMOLITION.

**GENERAL EROSION AND SEDIMENT CONTROL NOTES**

- ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES SHALL COMPLY WITH DDOE STANDARDS. THE DDOE INSPECTOR IS AUTHORIZED TO MODIFY THE LOCATION AND QUANTITY OF ESC MEASURES AS REQUIRED BASED ON FIELD CONDITIONS WITHOUT PLAN REAPPROVAL. CONTRACTOR SHALL ACCOMMODATE THE DDOE INSPECTOR'S MODIFICATIONS TO THE ESC PLAN.
- ESC MEASURES SHOWN ON THE ESC PLAN (LIMITS OF DISTURBANCE, SILT FENCE, ETC.) ARE SHOWN AS APPROXIMATE IN LOCATION AND SCALE FOR GRAPHIC CLARITY. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO THE LIMITS OF DISTURBANCE AS REQUIRED TO ALLOW ADEQUATE ROOM TO PERFORM THE WORK AND SHALL COORDINATE WITH THE DDOE INSPECTOR.
- INSTALL INLET PROTECTION ON ALL EXISTING AND PROPOSED INLETS ON AND ADJACENT TO THE LIMITS OF DISTURBANCE.
- SITE RUNOFF FROM DISTURBED AREAS SHALL BE FILTERED THROUGH A SEDIMENT CONTROL MEASURE (PER THE APPROVED ESC PLAN) PRIOR TO DISCHARGE OFF OF THE PROPERTY.
- INSTALL TREE PROTECTION FENCING WHERE THE DRIP LINE OF EXISTING TREES TO REMAIN IS LOCATED WITHIN THE CONSTRUCTION SITE. INSTALL TREE PROTECTION FENCING ALONG THE TREE DRIP LINE. TREE SYMBOLS ON THE PLAN DO NOT ACCURATELY REFLECT LIMITS OF EXISTING TREE DRIP LINES. DO NOT DISTURB, DRIVE, OR PLACE EQUIPMENT WITHIN THE TREE DRIP LINE.
- PROVIDE TEMPORARY STONE CONSTRUCTION ENTRANCE WITH WASH RACK AT THE LIMITS OF DISTURBANCE FOR PUBLIC STREET ACCESS. COORDINATE LOCATION WITH THE DDOE INSPECTOR. SUPPLEMENT STABILIZED CONSTRUCTION ENTRANCES WITH ADDITIONAL STONE AS NEEDED THROUGHOUT CONSTRUCTION. FOR LIMITED-DISTURBANCE PROJECTS, COORDINATE WITH THE DDOE INSPECTOR TO VERIFY IF TEMPORARY STONE CONSTRUCTION ENTRANCES CAN BE ELIMINATED.
- PROVIDE WATER SOURCE AND HOSE TO CLEAN ALL EQUIPMENT LEAVING SITE.
- LOCATE TEMPORARY SOIL STOCKPILE ON-SITE IN COORDINATION WITH CONSTRUCTION PHASING AND INSTALL SILT FENCE AROUND THE STOCKPILE.
- AREAS OF PUBLIC SPACE UTILITY WORK ARE PAVED AND WILL ONLY BE DISTURBED DURING BRIEF PERIODS. PLACE ALL EXCAVATED TRENCH MATERIAL ON THE UP-SLOPE SIDE OF THE TRENCH AND OUT OF THE PATH OF ANY STORMWATER RUNOFF. FILTER WATER PUMPED OUT OF TRENCH EXCAVATIONS THROUGH A SEDIMENT FILTERING DEVICE PRIOR TO DISCHARGING TO THE STORM SEWER SYSTEM.
- MAINTAIN DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. PROVIDE TEMPORARY FACILITIES, PUMPS, DRAINAGE PIPES, SUBSURFACE DRAINS, OR PIPE CONNECTIONS AS REQUIRED TO PREVENT PONDING OF WATER DURING CONSTRUCTION. DIVERT RUNOFF FROM UPPER AREAS BEYOND THE SITE AWAY FROM ENTERING THE CONSTRUCTION SITE. DEWATER THE SITE AS REQUIRED TO ALLOW EARTHWORK OPERATIONS. INSTALL AND MAINTAIN SEDIMENT FILTERING DEVICES SO THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE. DISCHARGE FILTERED CONCENTRATED RUNOFF DIRECTLY TO THE PUBLIC SEWER SYSTEM PER DDOE AND DC WATER REQUIREMENTS.
- PUBLIC SPACE SHALL BE MAINTAINED IN A CLEAN CONDITION (MUD AND DUST FREE) AT ALL TIMES. CLEAN TRUCKS AND EQUIPMENT ON-SITE TO PREVENT TRACKING OF DIRT ONTO PUBLIC SPACE.
- MINIMIZE GENERATION OF DUST DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS AND DDOE STANDARDS.

OWNER  
**DGS**  
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2000 14TH STREET, NW, 8TH FLOOR  
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GLOBAL ENGINEERING SOLUTION  
1365 PICCARD DRIVE, SUITE 200  
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CIVIL ENGINEER

**AMT**  
10 G STREET, NE, SUITE #430  
WASHINGTON, DC 20002  
T: (202) 289-4545 F: (202) 289-5051  
AMT PROJECT #103-506

ENGINEER'S CERTIFICATE

CERTIFICATE NO. 103-506  
EXPIRES 01/01/2017

SUBMISSION SCHEDULE	DATE
CONSTRUCTION DOCUMENTS SET	9/21/15

REVISION SCHEDULE	DATE
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PROJECT:

**DYRS-YOUTH SERVICES  
CENTER COURTYARD  
RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:

**COVER SHEET**

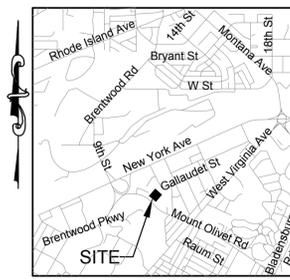
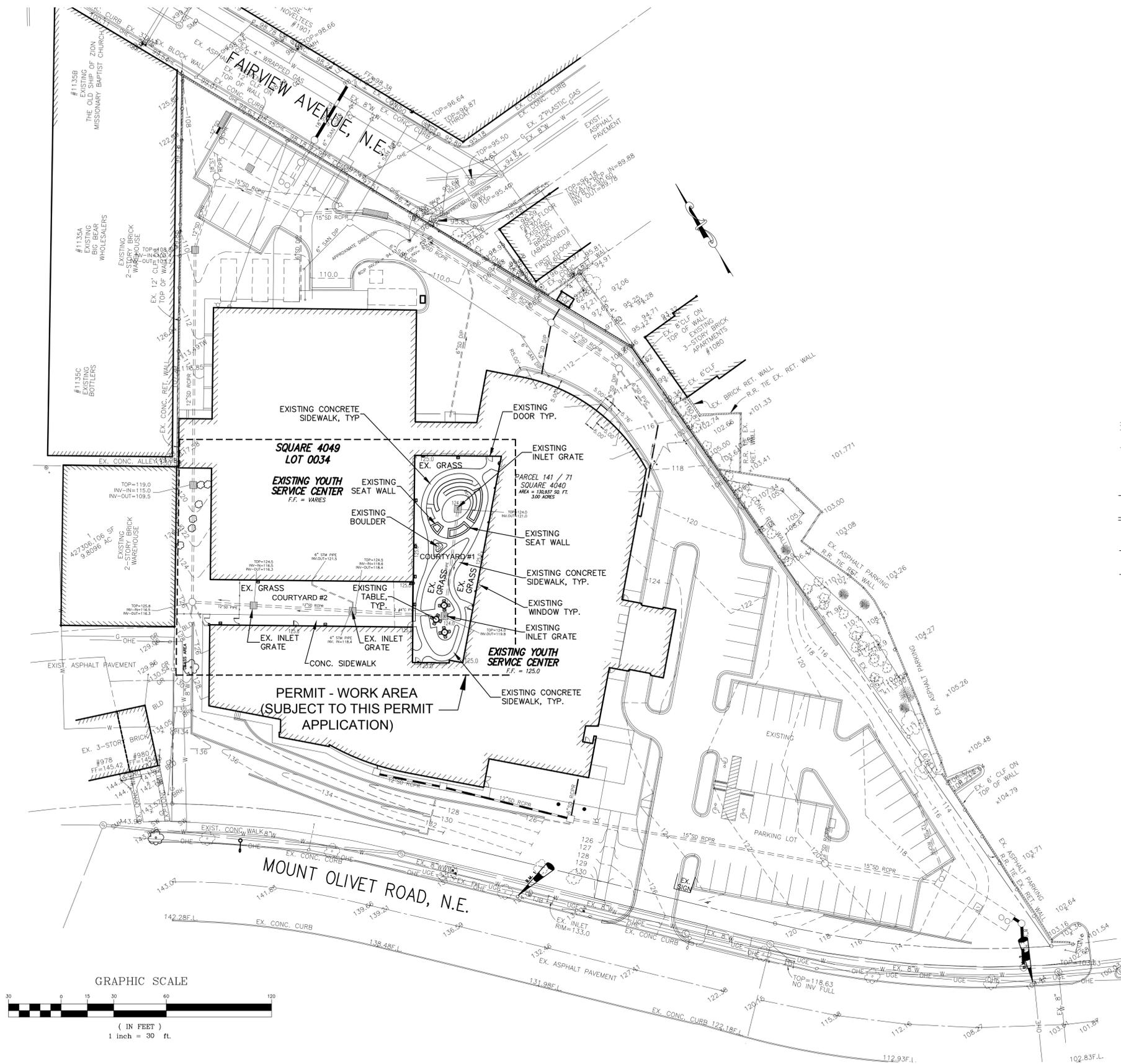
PROJECT NO: 113-506  
9/21/2015  
SCALE: N/A  
SHEET NO:

**C-0.0**

**MISS UTILITY**  
48 HOURS BEFORE YOU DIG  
CALL "MISS UTILITY" AT 202-265-7177 OR 811  
OR LOG ON TO <http://www.missutility.net>

*This document has undergone Quality Review by the following:*

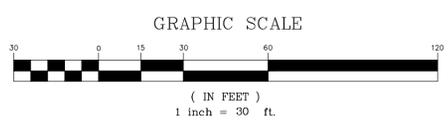
Eng: \_\_\_\_\_  
PM: \_\_\_\_\_  
QC: \_\_\_\_\_



VICINITY MAP  
SCALE: 1"=2000'

**LEGEND**

X 118.4	SPOT ELEVATION
====	CURB AND GUTTER
----	SANITARY
■	GRATE INLET
----	EXISTING CONTOUR
====	EXISTING STORM DRAIN
----	6" SAN DIP
----	6" WTR
----	LIMITS OF WORK UNDER THIS PERMIT APPLICATION



OWNER  
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CIVIL ENGINEER  
**AMT**  
10 G STREET, N.E., SUITE # 430  
WASHINGTON, DC 20002  
T: (202) 288-4545 F: (202) 288-5051  
AMT PROJECT #103-506



SUBMISSION SCHEDULE DATE  
CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE DATE

PROJECT:

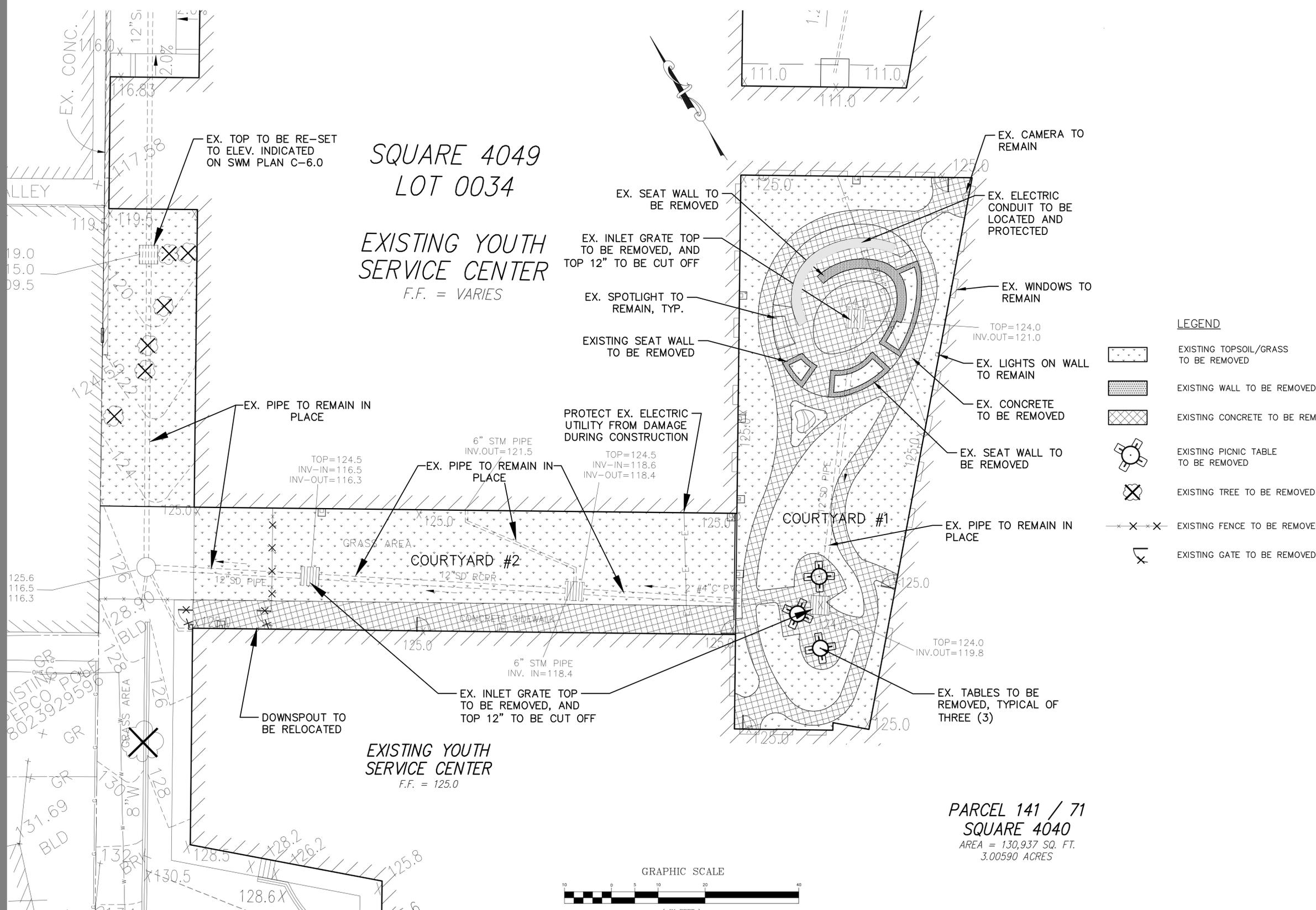
**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:  
**EXISTING CONDITIONS PLAN**

PROJECT NO: 113-506  
9/21/2015  
SCALE: 1 IN. = 30 FT.  
SHEET NO:

**MISS UTILITY**  
48 HOURS BEFORE YOU DIG  
CALL "MISS UTILITY" AT 202-265-7177 OR 811  
OR LOG ON TO <http://www.missutility.net>



OWNER  
**DGS**  
 DGS (DEPARTMENT OF GENERAL SERVICES)  
 2000 14TH STREET, NW, 8TH FLOOR  
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 WASHINGTON, DC 20002  
 T: (202) 289-4545 F: (202) 289-5051  
 AMT PROJECT #103-506

**ENGINEER'S CERTIFICATE**

DISTRICT OF COLUMBIA  
 BOARD OF ENGINEERS AND SURVEYORS  
 No. 9329  
 REGISTERED PROFESSIONAL ENGINEER

*Janet...*

CERTIFICATE # 103-506  
 EXPIRES 09/30/2015

SUBMISSION SCHEDULE DATE  
 CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE DATE

PROJECT:

**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
 WASHINGTON, DC 20002

SHEET TITLE:  
**DEMOLITION PLAN**

PROJECT NO: 113-506

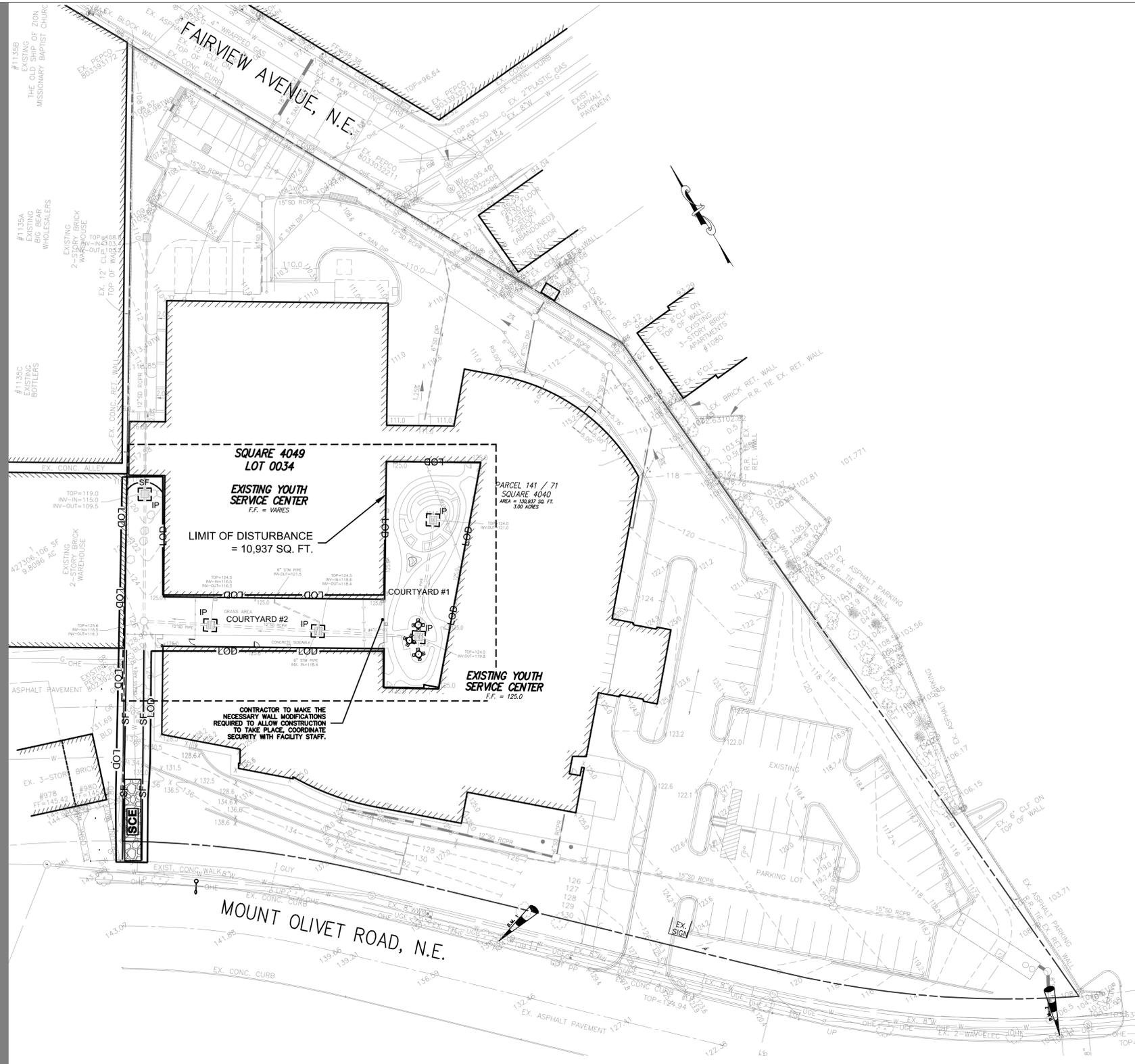
9/21/2015

SCALE: 1 IN. = 10 FT.

SHEET NO:

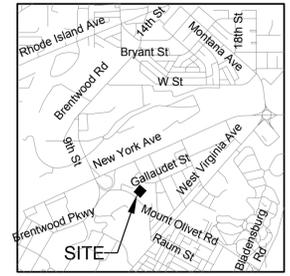
**C-2.0**

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 OR LOG ON TO <http://www.missutility.net>



**EROSION & SEDIMENT CONTROL NOTES**

1. CONTRACTOR SHALL NOT DISTURB ANY AREA OUTSIDE OF LIMITS OF DISTURBANCE (LOD).
2. CONTRACTOR SHALL CALL THE INSPECTION AND ENFORCEMENT BRANCH, WATERSHED PROTECTION DIVISION, DISTRICT DEPARTMENT OF THE ENVIRONMENT, AT 202-535-2240, FOR A PRE-CONSTRUCTION MEETING, 72 HOURS PRIOR TO THE START OF ANY LAND-DISTURBING ACTIVITY.
3. ALL CONSTRUCTION SHALL BE INSPECTED DAILY BY THE CONTRACTOR, AND ANY DAMAGED SILTATION OR EROSION CONTROL DEVICES OR MEASURES WILL BE REPAIRED AT THE CLOSE OF THE DAY. ALL SILT FENCE (SF) SHALL BE MAINTAINED IN WORKING CONDITION.
4. IF REQUIRED, PROVIDE NEW CHAIN LINK FENCE AROUND THE STAGING AREA FOR THE DURATION OF THIS WORK.
5. STABILIZED CONSTRUCTION ENTRANCE SHALL BE PERIODICALLY SUPPLEMENTED WITH ADDITIONAL STONE, AS NEEDED.
6. CONTROLS CAN BE REMOVED AFTER THEIR CONTRIBUTING AREAS HAVE BEEN PERMANENTLY STABILIZED, AND APPROVAL OF INSPECTOR IS OBTAINED.
7. ALL CONSTRUCTION AND RESTORATION OF PAVEMENT SURFACES WITHIN PUBLIC RIGHT OF WAY SHALL BE IN ACCORDANCE WITH DDOT STANDARDS AND SPECIFICATIONS.
8. ADDITIONAL SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE DDOT FIELD INSPECTOR.
9. OBTAIN DDOT OCCUPANCY PERMIT PRIOR TO INSTALLING EROSION & SEDIMENT CONTROL MEASURES SHOWN IN PUBLIC SPACE.



VICINITY MAP  
SCALE: 1"=2000'

**STANDARD EROSION AND SEDIMENT CONTROL MEASURES AND SEQUENCE**

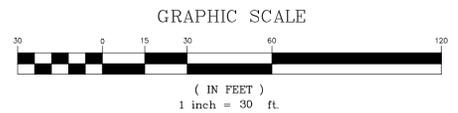
1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED PRIOR TO, OR AS THE FIRST STEP IN, GRADING.
2. PROVIDE WATER SOURCE AND HOSE TO CLEAN ALL EQUIPMENT LEAVING SITE.
3. PROCEED WITH EARTHWORK EXCAVATION AND SITE UTILITIES.
4. NO DISTURBED AREA WILL BE DENUDE FOR MORE THAN 7 CALENDAR DAYS. INSTALL NECESSARY TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION MEASURES TO ACHIEVE ADEQUATE EROSION AND SEDIMENT CONTROL.
5. ALL CONSTRUCTION SHALL BE INSPECTED DAILY BY THE CONTRACTOR, AND ANY DAMAGED EROSION CONTROL DEVICES OR MEASURES WILL BE REPAIRED AT THE CLOSE OF THE DAY.
6. CONSTRUCT REMAINING SITE APPURTENANCES. ALL SILT FENCE SHALL BE MAINTAINED IN WORKING CONDITION.

**SITE TABULATION**

LIMITS OF DISTURBANCE = 10,937 SF

**E&S CONTROL LEGEND**

-  CONSTRUCTION ENTRANCE
-  LIMITS OF DISTURBANCE
-  SILT FENCE
-  INLET PROTECTION
-  LIMIT OF WORK UNDER THIS PERMIT APPLICATION



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ARCHITECT  
**LANCE BAILEY & ASSOCIATES**  
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**AMT**  
10 G STREET, NE, SUITE # 430  
WASHINGTON, DC 20002  
T: (202) 289-4545 F: (202) 289-5051  
AMT PROJECT #103-506

**ENGINEER'S CERTIFICATE**

SUBMISSION SCHEDULE	DATE
CONSTRUCTION DOCUMENTS SET	9/21/15

REVISION SCHEDULE	DATE
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PROJECT:

**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:  
**EROSION AND SEDIMENT CONTROL PLAN**

PROJECT NO: 113-506

9/21/2015

SCALE: 1 IN. = 30 FT.

SHEET NO:

**C-3.0**

**VEGETATIVE STABILIZATION**  
PERMANENT AND TEMPORARY SEEDING, SODDING AND MULCHING

**DOEE SOIL EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES:**

- FOLLOWING INITIAL LAND DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR INTERIM STABILIZATION MUST BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS FOR THE SURFACES OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND SLOPES GREATER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1); AND FOURTEEN (14) DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THESE REQUIREMENTS DO NOT APPLY TO AREAS SHOWN ON THE PLAN THAT ARE USED FOR MATERIAL STORAGE OTHER THAN STOCKPILING, OR FOR THOSE AREAS ON THE PLAN WHERE ACTUAL CONSTRUCTION ACTIVITIES ARE BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY SO THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE DISTRICT OF COLUMBIA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (ESC). [21 DCMR § 542.9 (O)]
- ESC MEASURES SHALL BE IN PLACE BEFORE AND DURING LAND DISTURBANCE. [21 DCMR § 543.6]
- CONTACT DOEE INSPECTION (202) 535-2977 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST THREE (3) BUSINESS DAYS BEFORE THE COMMENCEMENT OF A LAND-DISTURBING ACTIVITY. [21 DCMR § 503.7 (A)]
- A COPY OF THE APPROVED PLAN SET WILL BE MAINTAINED AT THE CONSTRUCTION SITE FROM THE DATE THAT CONSTRUCTION ACTIVITIES BEGIN TO THE DATE OF FINAL STABILIZATION AND WILL BE AVAILABLE FOR DOEE INSPECTORS. [21 DCMR § 542.15]
- ESC MEASURES SHALL BE IN PLACE TO STABILIZE AN EXPOSED AREA AS SOON AS PRACTICABLE AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED BUT NO LATER THAN FOURTEEN (14) DAYS FOLLOWING CESSATION, EXCEPT THAT TEMPORARY OR PERMANENT STABILIZATION SHALL BE IN PLACE AT THE END OF EACH DAY OF UNDERGROUND UTILITY WORK THAT IS NOT CONTAINED WITHIN A LARGER DEVELOPMENT SITE. [21 DCMR § 543.7]
- STOCKPILED MATERIAL BEING ACTIVELY USED DURING A PHASE OF CONSTRUCTION SHALL BE PROTECTED AGAINST EROSION BY ESTABLISHING AND MAINTAINING PERIMETER CONTROLS AROUND THE STOCKPILE. [21 DCMR § 543.16 (A)]
- STOCKPILED MATERIAL NOT BEING ACTIVELY USED OR ADDED TO SHALL BE STABILIZED WITH MULCH, TEMPORARY VEGETATION, HYDRO-SEED OR PLASTIC WITHIN FIFTEEN (15) CALENDAR DAYS AFTER ITS LAST USE OR ADDITION. [21 DCMR § 543.16 (B)]
- PROTECT BEST MANAGEMENT PRACTICES FROM SEDIMENTATION AND OTHER DAMAGE DURING CONSTRUCTION FOR PROPER POST CONSTRUCTION OPERATION. [21 DCMR § 543.5]
- REQUEST A DOEE INSPECTOR'S APPROVAL AFTER THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. [21 DCMR § 542.12 (A)]
- REQUEST A DOEE INSPECTOR'S APPROVAL AFTER FINAL STABILIZATION OF THE SITE AND BEFORE THE REMOVAL OF EROSION AND SEDIMENT CONTROLS. [21 DCMR § 542.12 (B)]
- FINAL STABILIZATION MEANS THAT ALL LAND-DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND EITHER OF THE FOLLOWING TWO CRITERIA HAVE BEEN MET: (1) A UNIFORM (FOR EXAMPLE, EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF SEVENTY PERCENT (70%) OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR (2) EQUIVALENT PERMANENT STABILIZATION MEASURES HAVE BEEN EMPLOYED (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES). [21 DCMR § 542.12 (B.1, B.2)]
- FOLLOW THE REQUIREMENTS OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY APPROVED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN A LEGIBLE COPY OF THIS SWPPP ON SITE. [21 DCMR § 543.10 (B)]
- POST A SIGN THAT NOTIFIES THE PUBLIC TO CONTACT DDoe IN THE EVENT OF EROSION OR OTHER POLLUTION. THE SIGN WILL BE PLACED AT EACH ENTRANCE TO THE SITE OR AS DIRECTED BY THE DOEE INSPECTOR. EACH SIGN WILL BE NO LESS THAN 18 X 24 INCHES IN SIZE AND MADE OF MATERIALS THAT WILL WITHSTAND WEATHER FOR THE DURATION OF THE PROJECT. LETTERING WILL BE AT LEAST 1 INCH IN HEIGHT AND EASILY READABLE BY THE PUBLIC FROM A DISTANCE OF TWELVE FEET (12 FT). THE SIGN MUST DIRECT THE PUBLIC, IN SUBSTANTIALLY THE FOLLOWING FORM: "TO REPORT EROSION, RUNOFF, OR STORMWATER POLLUTION" AND WILL PROVIDE THE CONSTRUCTION SITE ADDRESS, DOEE'S TELEPHONE NUMBER (202-535-2977), DOEE'S EMAIL ADDRESS (IEB.SCHEDULING@DC.GOV), AND THE 311 MOBILE APP HEADING "CONSTRUCTION-EROSION RUNOFF". [21 DCMR § 543.22]
- A RESPONSIBLE PERSON MUST BE PRESENT OR AVAILABLE WHILE THE SITE IS IN A LAND-DISTURBING PHASE. THE RESPONSIBLE PERSON IS CHARGED WITH BEING AVAILABLE TO (A) INSPECT THE SITE AND ITS ESC MEASURES AT LEAST ONCE BIWEEKLY AND AFTER A RAINFALL EVENT TO IDENTIFY AND REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM, (B) RESPOND TO EACH POTENTIAL OR ACTUAL EROSION PROBLEM IDENTIFIED BY CONSTRUCTION PERSONNEL, AND (C) SPEAK ON SITE WITH DOEE TO REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM. A RESPONSIBLE PERSON SHALL BE (A) LICENSED IN THE DISTRICT OF COLUMBIA AS A CIVIL OR GEOTECHNICAL ENGINEER, A LAND SURVEYOR, OR ARCHITECT; OR (B) CERTIFIED THROUGH A TRAINING PROGRAM THAT DOEE APPROVES, INCLUDING A COURSE ON EROSION CONTROL PROVIDED BY ANOTHER JURISDICTION OR PROFESSIONAL ASSOCIATION. DURING CONSTRUCTION, THE RESPONSIBLE PERSON SHALL KEEP ON SITE PROOF OF PROFESSIONAL LICENSING OR OF SUCCESSFUL COMPLETION OF A DOEE-APPROVED TRAINING PROGRAM. [21 DCMR § 547]

**I. SITE PREPARATION**

PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN (A) SEVEN CALENDAR DAYS AS TO THE SURFACE OF ALL SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, GRASSED WATERWAYS, SEDIMENT BASINS, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND (B) FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

**II. SEEDBED PREPARATION AND SEEDING APPLICATION**

THE TOP LAYER OF SOIL SHALL BE LOOSENEED, LIMED AND FERTILIZED BY RAKING, DISCING OR HARROWING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. FLAT AREAS AND SLOPES UP TO 3 TO 1 GRADE SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3 INCHES SLOPES STEEPER THAN 3 TO 1 SHALL HAVE THE TOP 1-3 INCHES OF SOIL LOOSE AND FRIABLE BEFORE SEEDING. FLAT AREAS AND SLOPES UP TO 3 TO 1 GRADE SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3 INCHES SLOPES STEEPER THAN 3 TO 1 SHALL HAVE THE TOP 1-3 INCHES OF SOIL LOOSE AND FRIABLE BEFORE SEEDING.

APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL CULTIPACKER,SEEDER OR HYDROSEEDER ON A FIRM MOIST SEEDBED.

**III. SOIL AMENDMENTS**

LIME AND FERTILIZE ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TEST APPLY THE FOLLOWING:

DOLOMITIC LIMESTONE 2 TONS PER ACRE OR 92 LBS/1,000 (PERMANENT AND SODDING SQ.FT.)

FERTILIZER 1 TON PER ACRE OR 46 LB/1,000 (TEMPORARY) 10-10-10 OR EQUIVALENT AT 1,000 LBS PER ACRE OR 23 LBS PER 1,000 SQ. FT. (PERMANENT AND SODDING)

**IV. SEDIMENT CONTROL PRACTICES, SEEDING**

SEED: "KENTUCKY 31" TALL FESCUE 60 LBS/ACRE OR 1.38 LBS/1,000 SQ. FT AND ITALIAN (ANNUAL) RYEGRASS 40 LBS/ACRE OR .91 LBS/1,000 SQ. FT.

DATES: 1/2 - 10/31 5/1 - 8/14 WITH IRRIGATION.

**V. TEMPORARY SEEDING: PER GROWING SEASON**

SEED: ITALIAN OR PERENNIAL RYEGRASS 40 LBS/ACRE OR .92 LBS/1,000 SQ. FT.

DATES: 2/1 - 4/30 AND 8/15 - 11/30

SEED: MILLET 40 LBS/ACRE OR 0.92 LBS/1,000 SQ. FT.

DATES: 5/1 - 8/14

**VI. PERMANENT SEEDING**

**A. RESIDENTIAL AND HIGH MAINTENANCE AREAS**

- KENTUCKY BLUEGRASS, "PLUSH", "BIRKA", "PARADE", "VANTAGE", "COLUMBIA", "MERION", "ADELPHI", "SOUTH DAKOTA", "KENBLUE". ANY THREE VARIETIES AT 30 LBS. TO MAKE 90 LBS/ACRE OR 2 LBS/1,000 SQ.FT. AND RED FESCUE - "PENNLAWN" OR JAMESTOWN 10 LBS/1000 SQ.FT.

DATES: 2/1 - 4/30 AND 8/15 - 10/31.

- "KENTUCKY 31" TALL FESCUE 220-260 LBS/ACRE OR 5-6 LBS/1,000 SQ. FT.

DATES: 2/1 - 10/31 5/1 - 8/14 IRRIGATION REQUIRED.

**B. LOW MAINTENANCE AND MINING AREAS**

"KENTUCKY 31" TALL FESCUE 40 LBS/ACRE OR 0.92 LBS/1,000 SQ. FT. AND "INTERSTATE" SERICEA LESPEDEZA (INOCULATED)20 LBS/ACRE OR 0.46 LBS/1,000 SQ. FT.

DATES: 2/1 - 4/30 AND 8/15 - 10/31

**C. GENERAL AND LARGE ACREAGE**

"KENTUCKY 31" TALL FESCUE 60 LBS./ACRE OR 1.38 LBS/1,000 SQ.FT.

**VII. MULCHING**

ALL SEEDINGS REQUIRE MULCHING. USE MULCH ONLY DURING NON-SEEDING DATES UNTIL SEEDING CAN BE DONE.

MULCH SHALL BE UNROTTED, UNCHOPPED SMALL GRAIN STRAW APPLIED AT A RATE OF 1 TO 2 TONS/ACRE OR 70-90 LBS/1,000 SQ.FT. (2 BALES) MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEED BEDS AND SHALL BE FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY MECHANICALLY OR BY HAND. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY MULCH NETTINGS, MULCH ANCHORING TOOL, PEG AND TWIN OR LIQUID MULCH BINDERS.

LIQUID MULCH BINDER SHALL BE RAPID CURING CUTBACK ASPHALT APPLIED AT A RATE OF 200 GAL./ACRE OR 5 GAL. PER 1,000 SQ. FT. SLOPES 8 FEET OR MORE HIGH USE 348 GAL./ACRE OR 8 GAL./1,000 SQ. FT.

**VIII. SODDING**

CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR MARYLAND OR VIRGINIA STATE APPROVED SOD. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD IS TO BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR WITH STAGGERED JOINTS WITH ALL ENDS TIGHTLY ABUTTING AND NOT OVERLAPPING. SOD SHALL BE ROLLED AND THOROUGHLY WATERED WITHIN EIGHT HOURS OF INSTALLATION. DAILY WATERING TO MAINTAIN 4 INCH DEPTH OF MOISTURE FOR THE FIRST WEEK IS REQUIRED IN THE ABSENCE OF RAINFALL. SOD IS NOT TO BE APPLIED ON FROZEN GROUND.

**IX. MAINTENANCE**

A. IRRIGATION - WHEN SOIL MOISTURE BECOMES DEFICIENT, IRRIGATE TO PREVENT LOSS OF STAND OF PROTECTIVE VEGETATION.

B. REPAIRS - IF STAND IS INADEQUATE FOR EROSION CONTROL, OVERSEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY APPLIED. IF STAND IS OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL RATES AND PROCEDURES.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE 1987 DISTRICT OF COLUMBIA DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL VEGETATIVE PRACTICES.

**STANDARD EROSION AND SEDIMENT CONTROL NOTES:**

- SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED BEFORE THE START OF ANY EXCAVATION AND/OR CONSTRUCTION AS PER STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE DISTRICT OF COLUMBIA. IF AN ON-SITE INSPECTION REVEALS FURTHER EROSION CONTROL MEASURES ARE NECESSARY, THE SAME SHALL BE PROVIDED.
- ALL DEBRIS IS TO BE REMOVED FROM SITE AND DISPOSED OF AT A LEGAL, OFF-SITE LOCATION.
- ALLEYS, STREETS, AND SIDEWALKS SHALL BE SWEEPED CLEAN AT ALL TIMES DURING DEMOLITION, EXCAVATION AND CONSTRUCTION.
- ALL CATCH BASINS AND DRAIN AREAS SHALL BE PROTECTED DURING EXCAVATION AND CONSTRUCTION.
- IF ANY CATCH BASINS OR DRAINS BECOME CLOGGED AS A RESULT OF DEMOLITION, EXCAVATION OR CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS CLEANING.
- WHEN SEDIMENT TRAP/SEDIMENT TANK HAS REACHED 67% CAPACITY, CLEANING OUT OF SAME IS REQUIRED.
- ANY STOCKPILING, REGARDLESS OF LOCATION SHALL BE STABILIZED AND COVERED WITH PLASTIC OR CANVAS, AFTER ITS ESTABLISHMENT AND FOR DURATION OF THE PROJECT.
- AFTER RAZING OR DEMOLITION, THERE IS THE NEED FOR GROUND COVER TO PREVENT EROSION AND SEDIMENT RUNOFF FROM OCCURRING. SUCH AS APPLYING SEED, SOD, PAVE, BRICKBAT, MULCH, ETC.
- THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY AUTHORIZED OFFICIALS OF DCRA RESPONSIBLE FOR PROJECT.
- TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF DCRA INSPECTOR, WITHIN THIRTY CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
- VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE DCRA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING AND GROUND COVERS.
- SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.
- WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL GUIDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
- SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNED CONTROLS OR AS DIRECTED BY ENGINEER OR DCRA INSPECTOR:
  - CALL "MISS UTILITY" AT 202-265-7177, OR 811, 48 HOURS PRIOR TO THE START OF WORK.
  - EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
  - TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCHES SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS;
  - TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.

OFF-SITE SPOIL, WASTE, OR BORROW AREAS IN THE DISTRICT OF COLUMBIA OR ON FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY DCRA. ALL WASTE AN BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED IN ACCORDANCE WITH THE ORDINANCES AND REGULATIONS OF THE JURISDICTION WHERE THE SPOIL, WASTE, OR BORROW AREA IS LOCATED/STABILIZED.

SITE INFORMATION:	DATA
TOTAL AREA OF SITE	130,937 S.F.
AREA DISTURBED	10,937 S.F.
BUILDING AREA	47,336 S.F.
TOTAL CUT	500 CU. YDS*
TOTAL FILL	420 CU. YDS*

\* OFFSITE WASTE/BORROW TO BE SUBMITTED BY AREA LOCATION CONTRACTOR FOR APPROVAL THESE NUMBERS ARE FOR PERMIT PURPOSES ONLY AND NOT FOR BIDDING.

**OWNER**  
**DGS**  
DGS (DEPARTMENT OF GENERAL SERVICES)  
2000 14TH STREET, NW, 8TH FLOOR  
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AMT PROJECT #103-506



SUBMISSION SCHEDULE	DATE
CONSTRUCTION DOCUMENTS SET	9/21/15

REVISION SCHEDULE	DATE
-------------------	------

PROJECT:

**DYRS-YOUTH SERVICES  
CENTER COURTYARD  
RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:  
**EROSION & SEDIMENT  
CONTROL NOTES**

PROJECT NO: 113-506  
9/21/2015

SCALE: N/A  
SHEET NO:

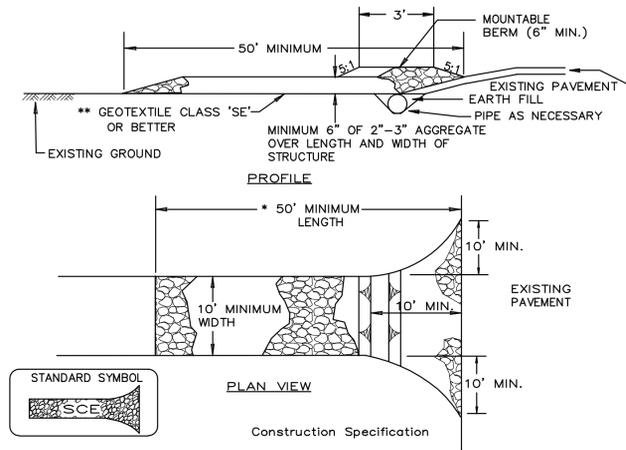
**C-3.1**

**MISS UTILITY**  
48 HOURS BEFORE YOU DIG  
CALL "MISS UTILITY" AT 202-265-7177 OR 811  
OR LOG ON TO <http://www.missutility.net>

CONSTRUCTION SPECIFICATION

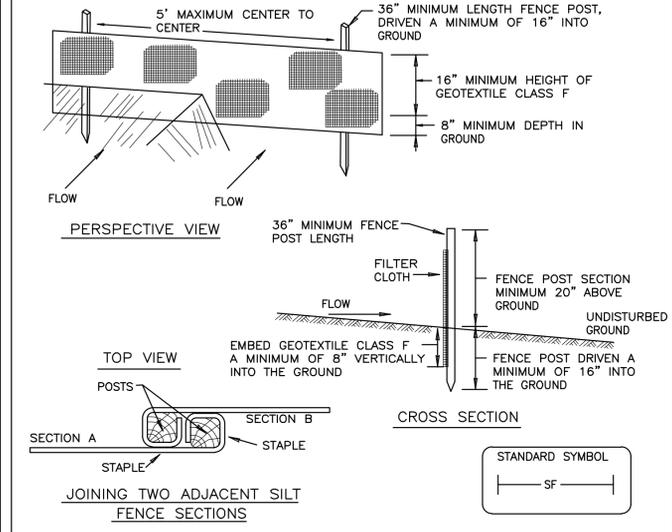
1. LENGTH – MIN. OF 50' RAMP x 30' RAMP FOR SINGLE RESIDENCE LOT.
2. WIDTH – 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
4. STONE – CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND MIN. OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MIN. WILL BE REQUIRED.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY WHEN WASHING IS REQUIRED. IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO A APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

DETAIL 1 – STABILIZED CONSTRUCTION ENTRANCE



1. LENGTH – MINIMUM OF 50' (\*30' FOR SINGLE RESIDENCE LOT).
2. WIDTH – 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. \*\*THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE – CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED. THE MOUNTABLE BERM IS REQUIRED ON ALL SCES NOT LOCATED AT A HIGH SPOT.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

DETAIL 4 – SILT FENCE



- CONSTRUCTION SPECIFICATIONS**
1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE (MINIMUM CUT, OR 1 3/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
  2. GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:
 

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: ASTM D-4595
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: ASTM D-4595
FLOW RATE	0.3 GAL/FT /MINUTE (MAX.)	TEST: ASTM D-5141
FILTERING EFFICIENCY	75% (MIN.)	TEST: ASTM D-5141
  3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
  4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 30% OF THE FABRIC.

STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND MAINTAIN THE PROJECT SITE SO AS TO MINIMIZE THE CREATION AND DISPERSION OF DUST. DUST CONTROL SHALL BE USED THROUGHOUT THE WORK AT THE SITE.
2. THE CONTRACTOR MUST PROVIDE CLEAN WATER, FREE FROM SALT, OIL AND OTHER DELETERIOUS MATERIAL TO BE USED FOR ON-SITE DUST CONTROL.
3. THE CONTRACTOR SHALL SUPPLY WATER SPRAYING EQUIPMENT CAPABLE OF ACCESSING ALL WORK AREAS.
4. THE CONTRACTOR SHALL IMPLEMENT STRICT DUST CONTROL MEASURES DURING ACTIVE CONSTRUCTION PERIODS ON-SITE. THESE CONTROL MEASURES WILL GENERALLY CONSIST OF WATER APPLICATIONS THAT SHALL BE APPLIED A MINIMUM OF ONCE PER DAY DURING DRY WEATHER OR MORE OFTEN AS REQUIRED TO PREVENT DUST EMISSIONS.
5. FOR WATER APPLICATION TO UNDISTURBED SOIL SURFACES, THE CONTRACTOR SHALL:
  - A. APPLY WATER WITH EQUIPMENT CONSISTING OF TANK, SPRAY BAR, PUMP WITH DISCHARGE PRESSURE GAUGE.
  - B. ARRANGE SPRAY BAR HEIGHT, NOZZLE SPACING AND SPRAY PATTERN TO PROVIDE COMPLETE COVERAGE OF GROUND WITH WATER.
  - C. DISPERSE WATER THROUGH NOZZLES ON SPRAY BAR AT 20 PSI, MINIMUM. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
6. FOR WATER APPLICATION TO SOIL SURFACES DURING DEMOLITION AND/OR EXCAVATION, THE CONTRACTOR SHALL:
  - A. APPLY WATER WITH EQUIPMENT CONSISTING OF A TANK, PUMP WITH DISCHARGE GAUGE, HOSES AND MIST NOZZLES.
  - B. LOCATE TANK AND SPRAYING EQUIPMENT SO THAT THE ENTIRE EXCAVATION AREA CAN BE MISTED WITHOUT INTERFERING WITH DEMOLITION AND/OR EXCAVATION EQUIPMENT OR OPERATIONS. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
  - C. APPLY WATER SPRAY IN A MANNER TO PREVENT MOVEMENT OF SPRAY BEYOND THE SITE BOUNDARIES.

SILT FENCE

Silt Fence Design Criteria

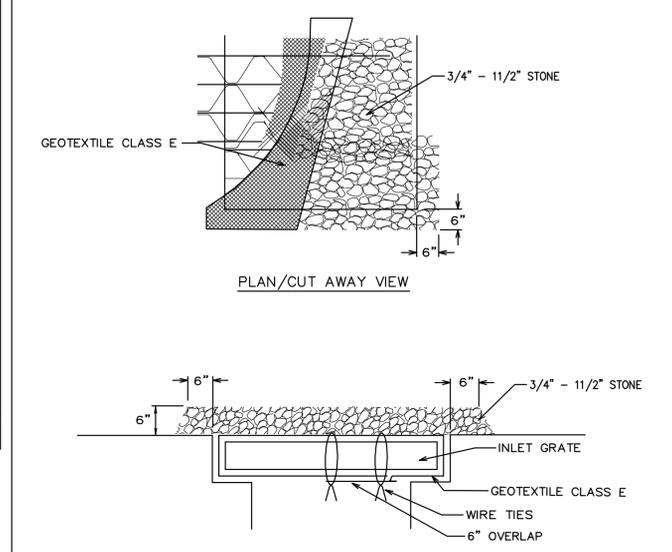
Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

STANDARDS AND SPECIFICATIONS FOR STREET SWEEPING

1. STREETS WITHIN ONE MILE SHALL BE INSPECTED DAILY, ANY DROPPED SOIL, DUST AND/OR DEBRIS SHALL BE REMOVED.
2. VACUUM TYPE STREET CLEANER SHALL BE USED TO EFFECTIVELY REMOVE TOTAL DUST AND DIRT ON PAVED SURFACES.
3. ROADS SHALL BE SWEEPED ON A WEEKLY BASIS (MINIMUM) DURING ALL ON AND OFF SITE HAULING OPERATIONS FOR UP TO ONE MILE ALONG HAUL ROUTES.

DETAIL 6B – AT GRADE INLET PROTECTION



- CONSTRUCTION SPECIFICATIONS**
1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
  2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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CIVIL ENGINEER  
**AMT**  
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 WASHINGTON, DC 20002  
 T: (202) 289-4545 F: (202) 289-5051  
 AMT PROJECT #103-506

ENGINEER'S CERTIFICATE

Carlos Ricardo Corina  
 PROFESSIONAL ENGINEER  
 No. 9329  
 STATE OF MARYLAND

SUBMISSION SCHEDULE	DATE
CONSTRUCTION DOCUMENTS SET	9/21/15

REVISION SCHEDULE	DATE
-------------------	------

PROJECT:

**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
 WASHINGTON, DC 20002

SHEET TITLE:  
**EROSION & SEDIMENT CONTROL DETAILS**

PROJECT NO: 113-506

9/21/2015

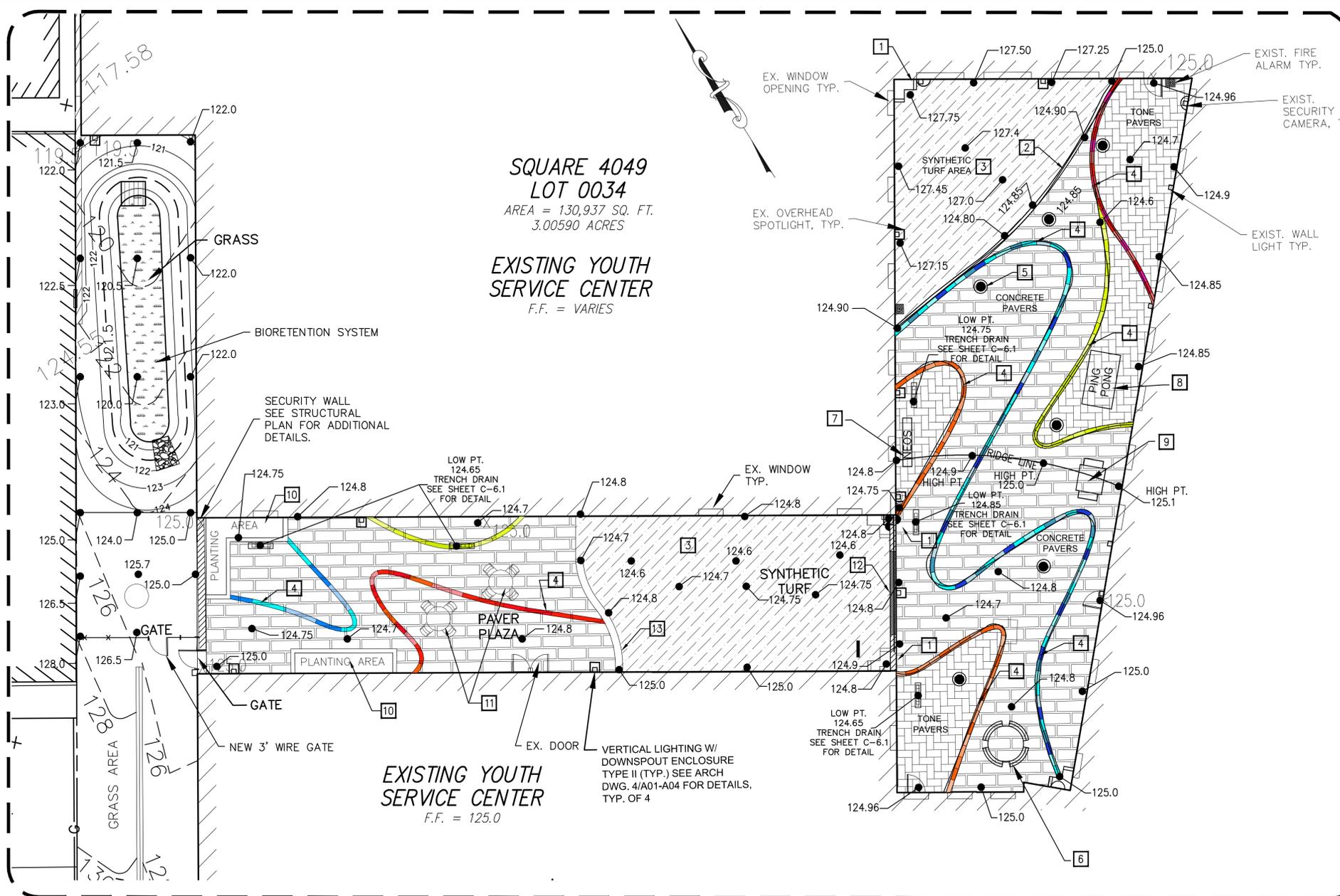
SCALE: N/A

SHEET NO:

**C-3.2**

**MISS UTILITY**  
 48 HOURS BEFORE YOU DIG  
 CALL "MISS UTILITY" AT 202-265-7177 OR 811  
 OR LOG ON TO <http://www.missutility.net>

- ESC DETAILS NOTES:**
1. EROSION AND SEDIMENT CONTROL DETAILS ARE INCLUDED ON THE PLANS FOR REFERENCE ONLY AND ARE NOT INTENDED TO REPRESENT A TOTAL INCLUSION OF ALL EROSION AND SEDIMENT CONTROL DETAILS AND STANDARDS THAT MAY BE REQUIRED FOR THE PROJECT. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF ALL DDOE DETAILS AND STANDARDS.
  2. COORDINATE ESC MEASURE WITH THE DDOE INSPECTOR. INSTALL ADDITIONAL MEASURES AS REQUIRED BY THE DDOE INSPECTOR.
  3. ESC DETAILS SHOWN ON THIS SHEET MAY NOT BE REQUIRED FOR THIS SPECIFIC PROJECT AND ARE INCLUDED IN THE EVENT THE DDOE INSPECTOR REQUIRES ADDITIONAL ESC MEASURES TO BE INSTALLED.
  4. SPECIFICATIONS FOR ESC MEASURES ARE INCLUDED IN THE ESC NOTES AND DETAILS AND ARE NOT REFERENCED IN THE PROJECT SPECIFICATIONS. REFER TO DDOE STANDARDS & SPECIFICATIONS.



**SQUARE 4049  
LOT 0034**  
AREA = 130,937 SQ. FT.  
3.00590 ACRES

**EXISTING YOUTH  
SERVICE CENTER**  
F.F. = VARIES

**EXISTING YOUTH  
SERVICE CENTER**  
F.F. = 125.0

**SITE DEVELOPMENT PLAN**  
SCALE: 1 IN. = 10 FT.

**REFERENCE NOTES**

1. REFER TO DWG. C-2.0 FOR DEMOLITION.
2. REFER TO DWG. C-3.0 FOR EROSION & SED. CONTROL.
3. REFER TO DWG. C-5.0 FOR UTILITY INFORMATION.
4. REFER TO DWG. C-4.1; C-4.2 FOR SITE DETAILS.
5. REFER TO DWG. C-0.0 FOR OTHER APPLICABLE NOTES

**LEGEND**

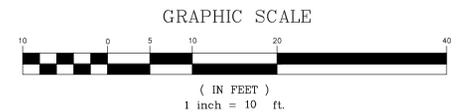
- PERMEABLE CONCRETE PAVERS (SIZE OF UNIT)
- SYNTHETIC TURF
- CONCRETE BLOCK WITH - RANDOM SELECTION OF 10%, 30% AND 50% SATURATION
- x 125.0 EXISTING SPOT ELEVATION
- 125.0 NEW SPOT ELEVATION
- CONCRETE EDGING BAND (COLOR)
- PERIMETER CONCRETE CURB
- TRENCH DRAIN - INLET GRATE
- LIGHT - FLUSH WITH GROUND
- SECURITY WALL

**GENERAL NOTES:**

1. CONTRACTOR TO ENGAGE AN UNDERGROUND UTILITY LOCATION SERVICE TO LOCATE, IDENTIFY, AND MARK ALL UNDERGROUND UTILITY LINES PRIOR TO UNDERTAKING ANY EXCAVATIONS.
2. ALL CONCRETE WALK, CURB AND GUTTER SHALL CONFORM TO DDOT STANDARDS AND SPECIFICATIONS.
3. ALL STORM DRAIN WORK AND MATERIALS AND METHODS SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF DCWATER.
4. CONTRACT MISS UTILITY AT 202-265-7177 FOR MARKINGS OF EXISTING UNDERGROUND UTILITIES BEFORE EXCAVATING ANY WORK.
5. CONTRACTOR TO TEST PIT FOR LOCATION AND DEPTH OF EXISTING GAS AND ELECTRIC BEFORE EXCAVATING FOR ANY WORK DEPICTED ON THIS PLAN.
6. SEE THE COVER SHEET FOR ADDITIONAL NOTES THAT APPLY TO THIS PHASE OF WORK.

**SITE PLAN KEYNOTES:**

- 1 WALL EXTRUSION COLOR ACCENT FEATURE - REFER TO ARCHITECTS PLAN FOR DETAILS
- 2 CONCRETE PERIMETER CURB - REFER TO DETAIL ON CIVIL DWG. C-4.1
- 3 SYNTHETIC TURF (STAGE) SURFACE - REFER TO DETAIL ON CIVIL DWG. C-6.1
- 4 CONCRETE EDGING WITH MIXED COLOR HUES TO MATCH INTERIOR POD COLORS
- 5 LIGHT FIXTURE - REFER TO ELECTRIC PLANS FOR ADDITIONAL INFORMATION, TYP. OF 6
- 6 ROUND TABLE FOR 12 PERSONS - REFER TO DETAIL ON CIVIL DWG. C-4.2
- 7 NEOS ELECTRONIC GAME FOR CHILDREN - REFER TO DETAIL ON CIVIL DWG C-4.2
- 8 PING PONG TABLE, SECURED TO FLOOR - SEE DETAIL ON CIVIL DWG. C-4.2
- 9 GAME TABLE TO BE SECURED TO FLOOR - SEE DETAIL ON CIVIL DWG C-4.2
- 10 8" CONCRETE PLANTER AREA (SEE DETAIL ON C-4.1)
- 11 ROUND TABLE FOR 4 PERSONS - REFER TO DETAIL ON CIVIL DWG. C-4.2
- 12 SECURITY ROLL UP DOOR
- 13 14" RAISED CONCRETE SEAT WALL (SEE DETAIL ON C-4.1)



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CIVIL ENGINEER  
**AMT**  
10 G STREET, NE, SUITE #430  
WASHINGTON, DC 20002  
T: (202) 289-4545 F: (202) 289-5051  
AMT PROJECT #103-506

ENGINEER'S CERTIFICATE

LANCE BAILEY  
REGISTERED PROFESSIONAL ENGINEER  
No. 9329  
STATE OF MARYLAND

SUBMISSION SCHEDULE	DATE
CONSTRUCTION DOCUMENTS SET	9/21/15

REVISION SCHEDULE	DATE
-------------------	------

PROJECT:

**DYRS-YOUTH SERVICES  
CENTER COURTYARD  
RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:

**SITE DEVELOPMENT PLAN**

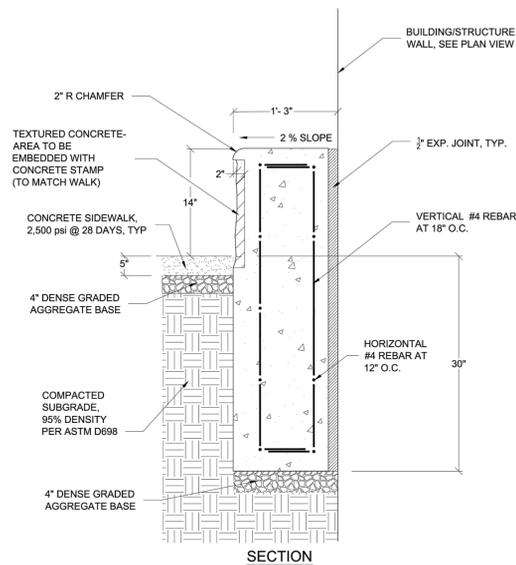
PROJECT NO: 113-506

9/21/2015

SCALE: 1 IN. = 10 FT.

SHEET NO:

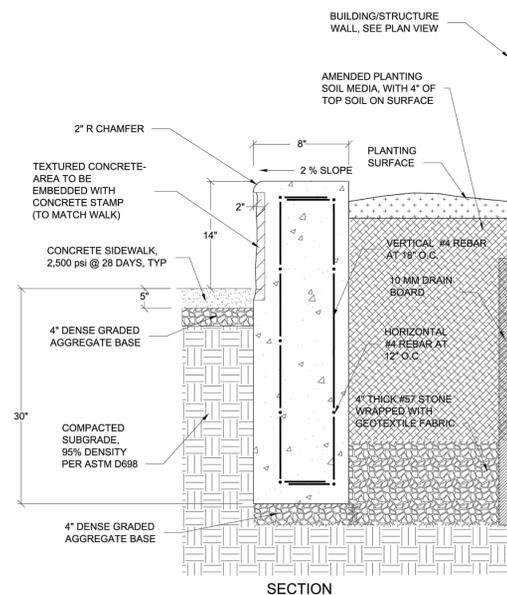
**C-4.0**



- NOTE:
1. EMBED ALL REBAR MIN. 2" IN CONCRETE
  2. PROVIDE RUBBED FINISH ON WALL

**COURTYARD CONCRETE SEAT WALL**

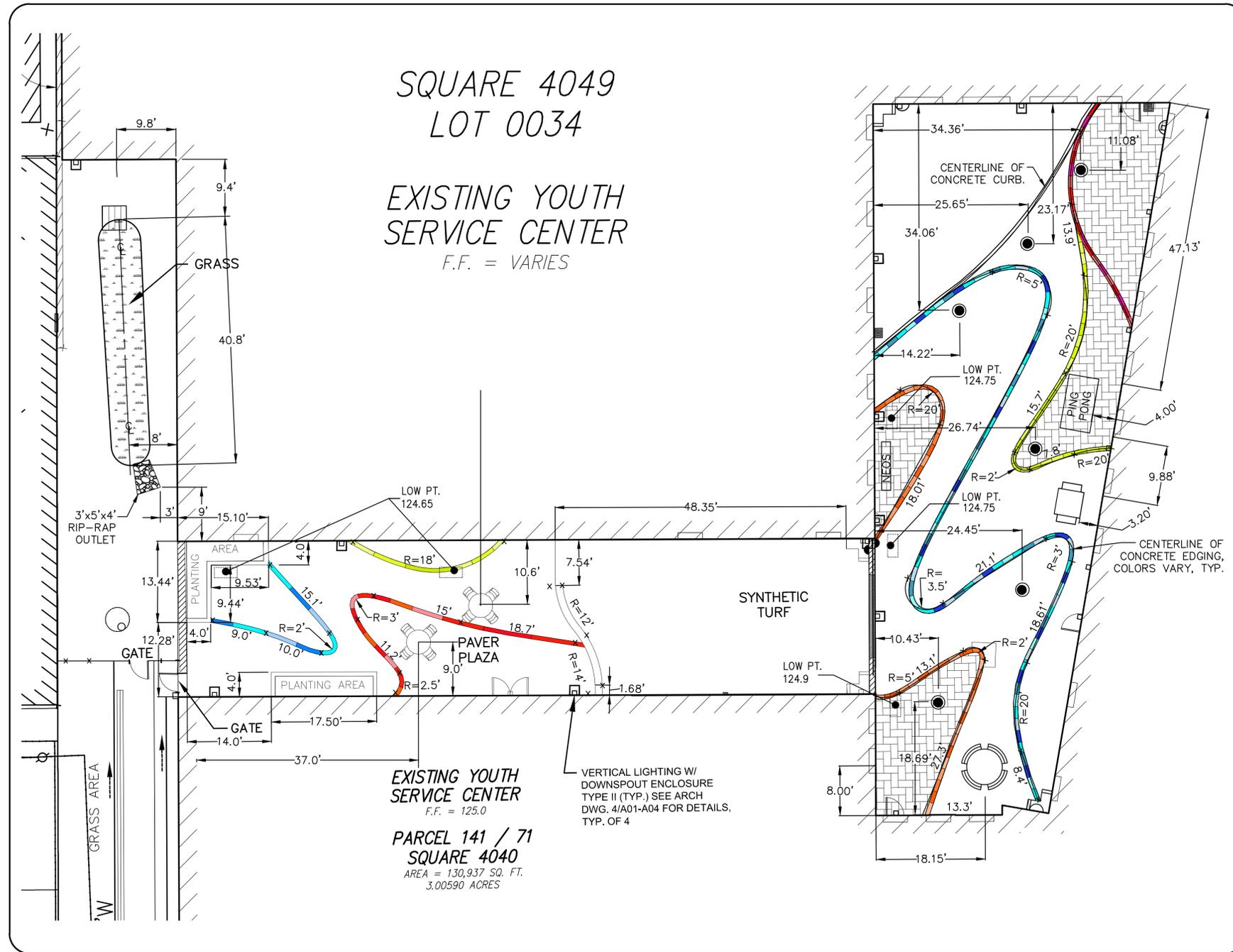
NOT TO SCALE



- NOTE:
1. EMBED ALL REBAR MIN. 2" IN CONCRETE
  2. PROVIDE RUBBED FINISH ON WALL

**CONCRETE PLANTER WALL**

NOT TO SCALE



SQUARE 4049  
LOT 0034

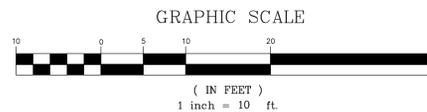
EXISTING YOUTH  
SERVICE CENTER  
F.F. = VARIES

EXISTING YOUTH  
SERVICE CENTER  
F.F. = 125.0

PARCEL 141 / 71  
SQUARE 4040  
AREA = 130,937 SQ. FT.  
3.00590 ACRES

**GEOMETRIC LAYOUT PLAN**

SCALE: 1 IN. = 10 FT.



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AMT PROJECT #103-506

ENGINEER'S CERTIFICATE



SUBMISSION SCHEDULE DATE

CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE DATE

PROJECT:

**DYRS-YOUTH SERVICES  
CENTER COURTYARD  
RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:

**SITE GEOMETRIC LAYOUT  
PLAN AND DETAILS**

PROJECT NO: 113-506

9/21/2015

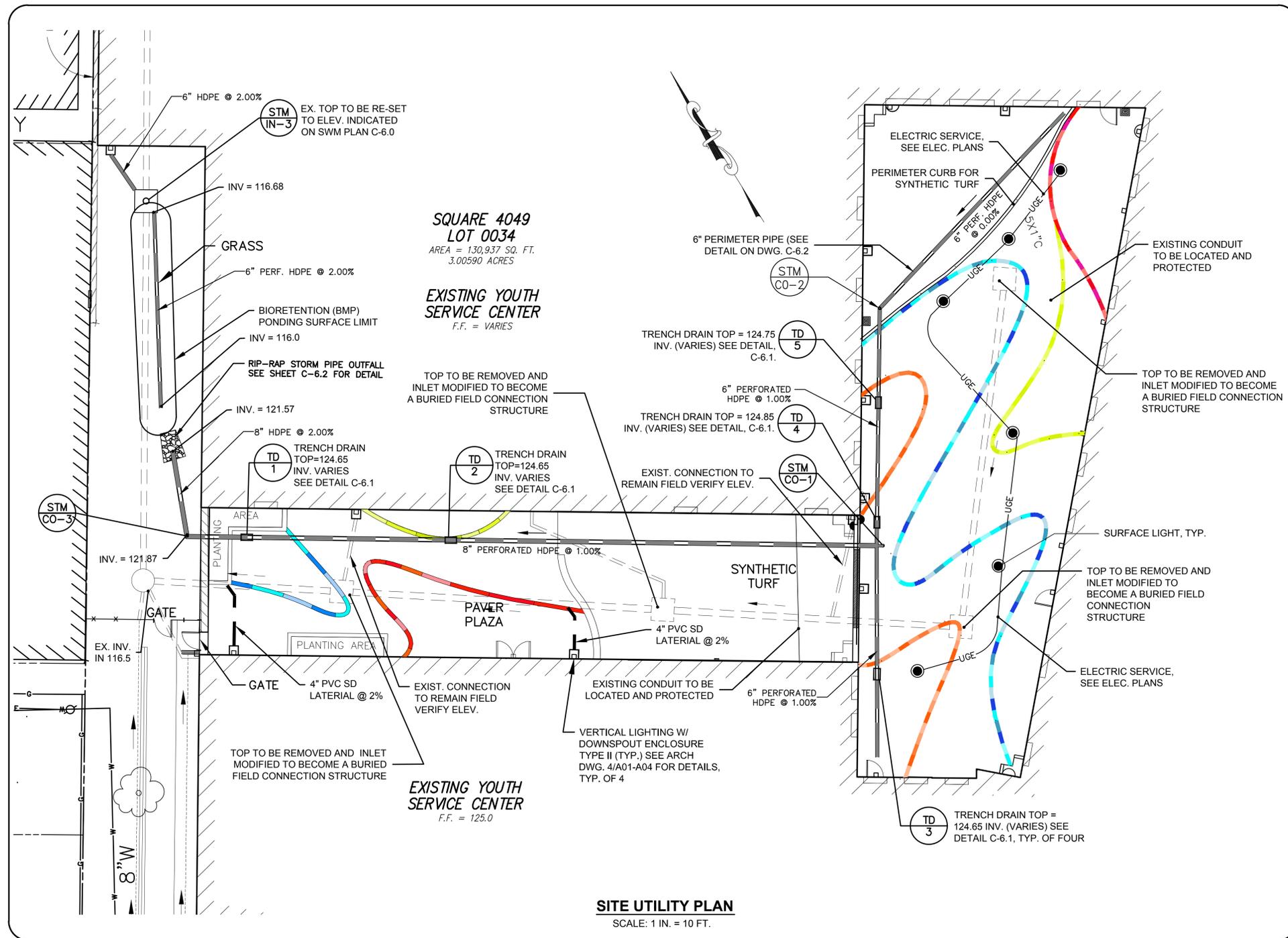
SCALE: 1 IN. = 10 FT.

SHEET NO:

**C-4.1**







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 AMT PROJECT #103-506



SUBMISSION SCHEDULE	DATE
CONSTRUCTION DOCUMENTS SET	9/21/15
REVISION SCHEDULE	DATE
PROJECT:	

**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

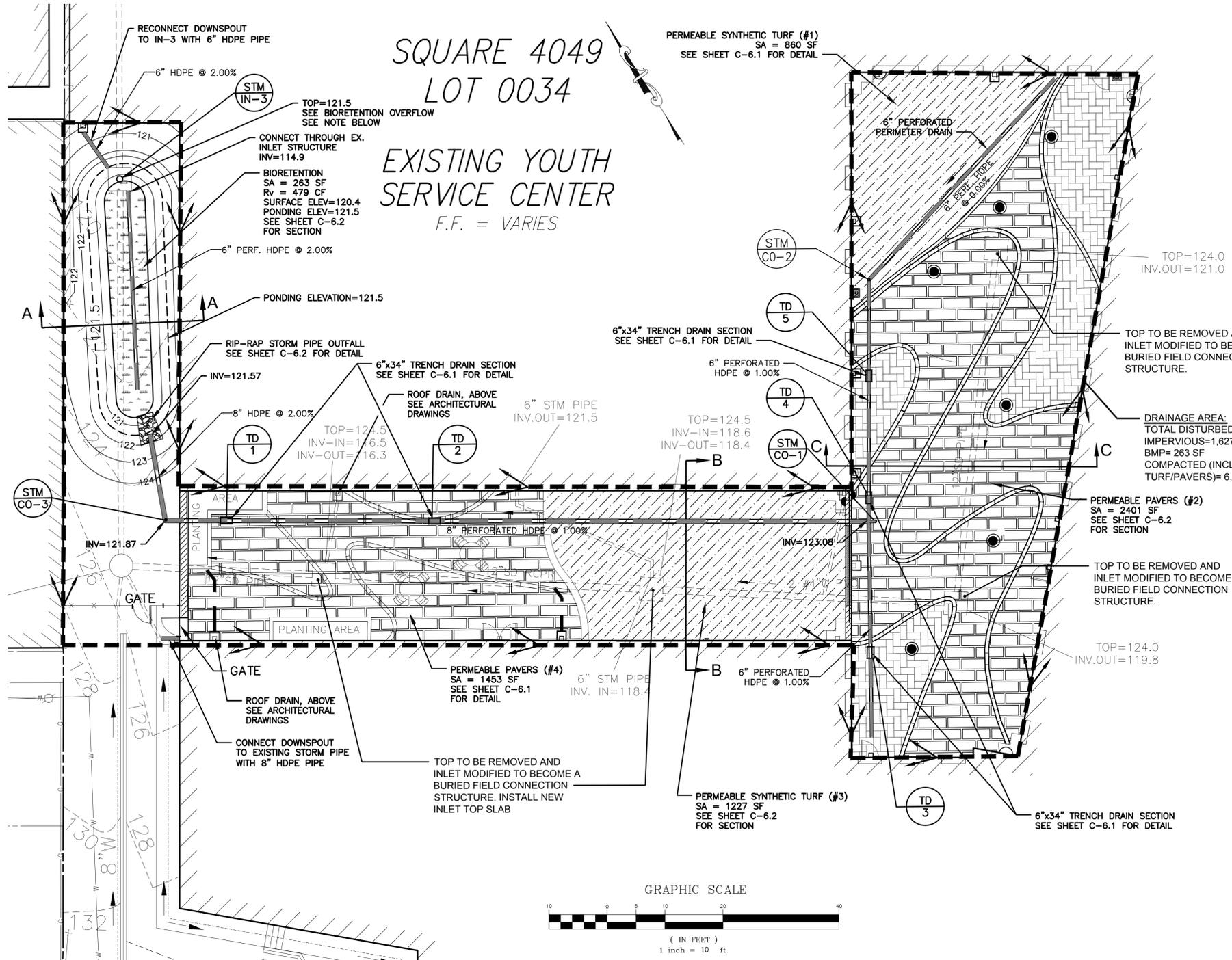
1000 MOUNT OLIVET ROAD, NE  
 WASHINGTON, DC 20002

**SITE UTILITY PLAN**

PROJECT NO: 113-506  
 9/21/2015  
 SCALE: 1 IN. = 10 FT.  
 SHEET NO:

**C-5.0**

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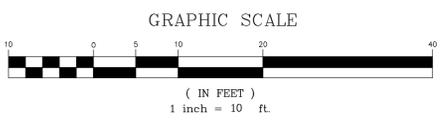
PERMEABLE SYNTHETIC TURF (#1)  
SA = 860 SF  
SEE SHEET C-6.1 FOR DETAIL

BIORETENTION  
SA = 263 SF  
Rv = 479 CF  
SURFACE ELEV=120.4  
PONDING ELEV=121.5  
SEE SHEET C-6.2  
FOR SECTION

DRAINAGE AREA:  
TOTAL DISTURBED AREA= 8,854 SF  
IMPERVIOUS=1,627 SF  
BMP= 263 SF  
COMPACTED (INCLUDES PERMEABLE  
TURF/PAVERS)= 6,964 SF

PERMEABLE PAVERS (#4)  
SA = 1453 SF  
SEE SHEET C-6.1  
FOR DETAIL

PERMEABLE SYNTHETIC TURF (#3)  
SA = 1227 SF  
SEE SHEET C-6.2  
FOR SECTION



**BIORETENTION OVERFLOW NOTE:**  
REPLACE THE EXISTING INLET GRATE/RIM WITH A SOLID CONCRETE CAP WITH A 12" OPENING FOR A DRAIN BASIN. INSTALL 12" DRAIN BASIN WITH A DOME GRATE. EXISTING INLET TOP ELEVATION = 119.0. PROPOSED OVERFLOW RIM ELEVATION = 121.5. SEE SHEET C-6.2 FOR DETAIL.

**STORMWATER MANAGEMENT NARRATIVE:**  
THIS PROJECT WILL BE UNDER 2013 STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL REGULATIONS PER THE DC DEPARTMENT OF ENERGY AND ENVIRONMENT (DOEE) REGULATIONS. THIS PROJECT WILL BE A MAJOR LAND DISTURBANCE ACTIVITY. THEREFORE, THE SITE HAS A RETENTION REQUIREMENT FOR THE FIRST 1.2" OF RAINFALL. THE 8,854 SF AREA OF DISTURBANCE HAS A STORMWATER RETENTION VOLUME OF 354 CF (2,645 GAL). THIS VOLUME WILL BE ADDRESSED WITH A BIORETENTION FACILITY (Rv=479 CF). THE PERMEABLE PAVERS AND TURF ARE CONSIDERED COMPACTED SURFACES. THEIR STORAGE VOLUME IS NOT COUNTED TOWARDS THE STORMWATER RETENTION VOLUME. THE BUILDINGS SURROUNDING THE PROJECT SITE ARE OUTSIDE OF THE LIMITS OF DISTURBANCE AND ARE NOT INCLUDED IN THIS STORMWATER MANAGEMENT PLAN. THE EXISTING ROOF DRAINS ARE TO BE CONNECTED TO THE EXISTING 12" STORM DRAIN, WHICH WILL REMAIN SEPARATE FROM THE PROPOSED COURTYARD STORM DRAIN UNTIL IN-3 - THE PROPOSED BIORETENTION OVERFLOW.

STATEMENT BY PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA

THIS IS TO CERTIFY THAT THE ENGINEERING FEATURES OF ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPs), STORMWATER INFRASTRUCTURE, AND LAND COVERS (COLLECTIVELY THE "FACILITY") HAVE BEEN DESIGNED/ EXAMINED BY ME AND FOUND TO BE IN CONFORMITY WITH MODERN ENGINEERING PRINCIPLES APPLICABLE TO THE TREATMENT AND DISPOSAL OF STORMWATER POLLUTANTS. I FURTHER CERTIFY THAT THE FACILITY HAS BEEN DESIGNED IN ACCORDANCE WITH THE SPECIFICATION REQUIRED UNDER CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS. IT IS ALSO STATED THAT THE UNDERSIGNED HAS FURNISHED THE APPLICANT WITH A SET OF INSTRUCTIONS FOR MAINTENANCE AND OPERATION OF THE SITE'S FACILITY.

SIGNATURE OF THE ENGINEER

AMT, LLC  
NAME AND TITLE (PLEASE TYPE):  
10 G STREET, NE SUITE 430  
ADDRESS  
WASHINGTON, DC 20002  
DATE: 09/21/2015 (202) 289-4545

STATEMENT BY PERSON RESPONSIBLE FOR MAINTENANCE

THE UNDERSIGNED AGREES TO MAINTAIN AND OPERATE THE STORMWATER BEST MANAGEMENT PRACTICES (BMPs), STORMWATER INFRASTRUCTURE, AND LAND COVERS IN SUCH A MANNER AS TO COMPLY WITH THE PROVISIONS OF 21 DCMR CHAPTER 5. RESPONSIBILITY FOR MAINTENANCE AND OPERATION MAY BE TRANSFERRED TO ANOTHER ENTITY UPON WRITTEN NOTICE TO THE WATERSHED PROTECTION DIVISION OF THE DISTRICT DEPARTMENT OF THE ENVIRONMENT FROM THE UNDERSIGNED AND THE ENTITY ASSUMING RESPONSIBILITY, CERTIFYING THAT THE TRANSFER OF RESPONSIBILITY FOR MAINTENANCE AND OPERATION IN COMPLIANCE WITH CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS HAS BEEN ACCEPTED.

SIGNATURE OF PERSON RESPONSIBLE FOR MAINTENANCE (IT MAY BE THE APPLICANT)

NAME AND TITLE (PLEASE TYPE):  
ADDRESS:  
DATE: PHONE NO.:

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

WITHIN 21 DAYS AFTER COMPLETION OF CONSTRUCTION OF ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPs), STORMWATER INFRASTRUCTURE, AND LAND COVERS (COLLECTIVELY THE "FACILITY") PLEASE SEND THIS PAGE TO THE WATERSHED PROTECTION DIVISION OF THE DISTRICT DEPARTMENT OF THE ENVIRONMENT.

1. FACILITY INFORMATION:

SOURCE NAME:  
SOURCE LOCATION: STREET:  
CITY:  
DCRA PERMIT NO.:  
DATE ISSUED:

2. AS-BUILT CERTIFICATION:

I HEREBY CERTIFY THAT ALL STORMWATER BEST MANAGEMENT PRACTICES, STORMWATER INFRASTRUCTURE, AND LAND COVERS (COLLECTIVELY THE "FACILITY") HAVE BEEN BUILT SUBSTANTIALLY IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THAT ANY DEVIATIONS NOTED BELOW WILL NOT PREVENT THE SYSTEM FROM FUNCTIONING IN COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS WHEN PROPERLY MAINTAINED AND OPERATED. THESE DETERMINATIONS HAVE BEEN BASED UPON ON-SITE OBSERVATION OF CONSTRUCTION, SCHEDULED AND CONDUCTED BY ME OR BY A PROJECT REPRESENTATIVE UNDER MY DIRECT SUPERVISION. I HAVE ENCLOSED ONE SET OF AS-BUILT ENGINEERING DRAWINGS.

SIGNATURE OF THE ENGINEER NAME (PLEASE TYPE) D.C. REG. NO.

COMPANY NAME:  
COMPANY ADDRESS  
DATE: TELEPHONE:

SUBSTANTIAL DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS (ATTACH ADDITIONAL SHEETS IF REQUIRED)

LEGEND

- DRAINAGE AREA
- BIORETENTION SURFACE
- SYNTHETIC TURF
- PERMEABLE CONCRETE PAVERS
- CONCRETE PAVERS (IMPERVIOUS)
- NEW TRENCH DRAIN

OWNER  
DGS  
DGS (DEPARTMENT OF GENERAL SERVICES)  
2000 14TH STREET, NW, 8TH FLOOR  
WASHINGTON, DC 20005

ARCHITECT  
LANCE BAILEY & ASSOCIATES  
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WASHINGTON, DC 20002  
T: (202) 289-4545 F: (202) 289-5051  
AMT PROJECT #103-506

ENGINEER'S CERTIFICATE



SUBMISSION SCHEDULE DATE  
CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE DATE

PROJECT:

DYRS-YOUTH SERVICES  
CENTER COURTYARD  
RENOVATIONS

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:  
STORMWATER MANAGEMENT  
PLAN

PROJECT NO: 113-506

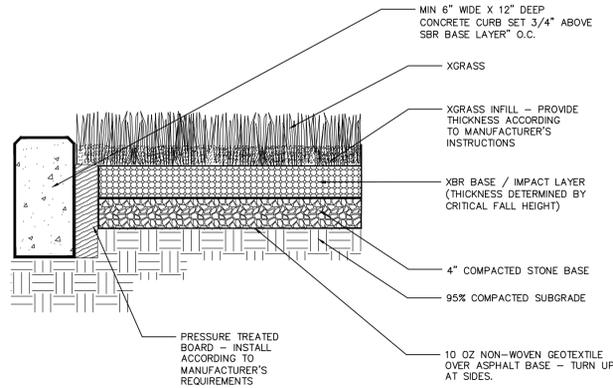
9/21/2015

SCALE: AS SHOWN

SHEET NO:

C-6.0

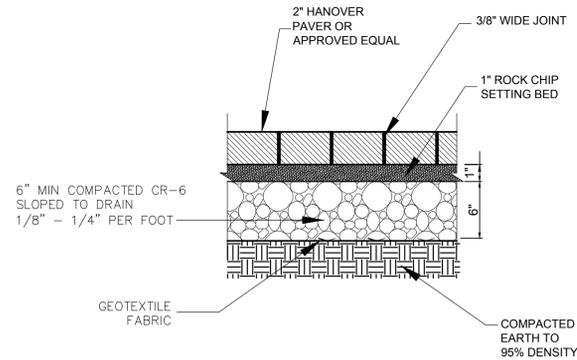
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OR LOG ON TO <http://www.missutility.net>



- NOTES:**
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
  2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
  3. CONTRACTOR SHALL INSTALL XGRASS CROSS SECTION THICKNESS FOR ALL AREAS PER MANUFACTURER'S DESIGN TO MEET THE REQUIREMENTS FOR THE PLAY EQUIPMENT WITH THE HIGHEST CRITICAL FALL HEIGHT

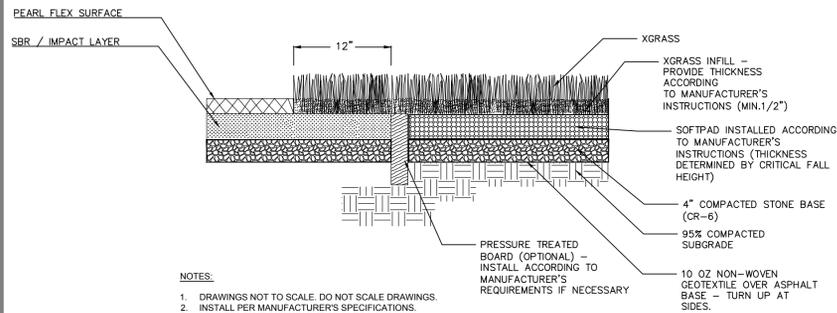
**XGRASS SYNTHETIC TURF SURFACE AND TRANSITION**

NOT TO SCALE



**PERMEABLE PAVING OVER AGGREGATE**

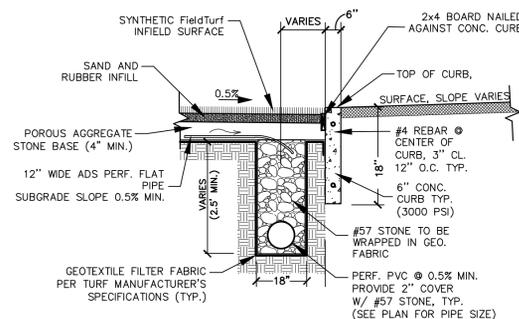
NOT TO SCALE



- NOTES:**
1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
  2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
  3. CONTRACTOR SHALL INSTALL XGRASS CROSS SECTION THICKNESS FOR ALL AREAS PER MANUFACTURER'S DESIGN TO MEET THE REQUIREMENTS FOR THE PLAY EQUIPMENT WITH THE HIGHEST CRITICAL FALL HEIGHT

**XGRASS SYNTHETIC TURF SURFACE AND TRANSITION**

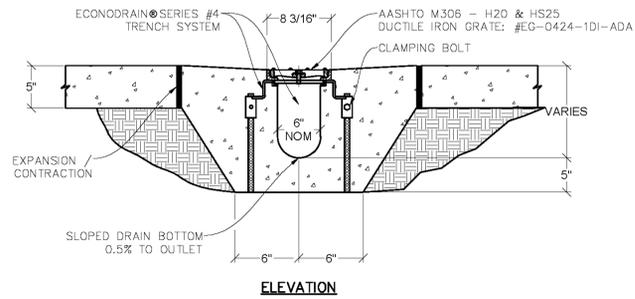
NOT TO SCALE



GENERAL NOTE: FOR LOCATION OF PERIMETER DRAIN FOR EACH COURTYARD AREA SHALL BE INSTALLED PER THE STORMWATER PLAN, THIS IS GENERIC DETAIL.

**TYPICAL PERIMETER DRAIN SECTION A-A**

NOT TO SCALE

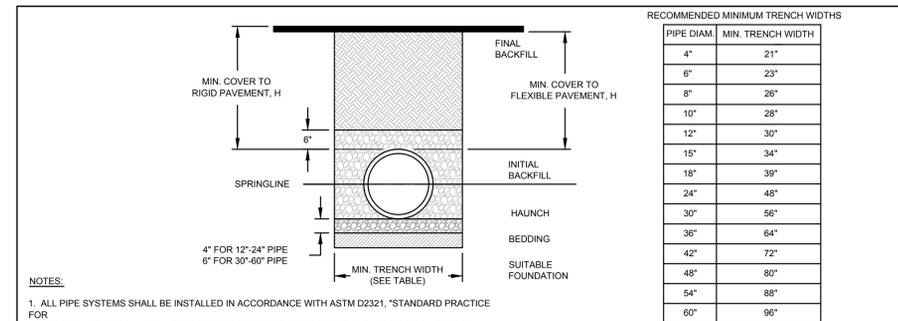


- NOTE:**
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  2. ADD REBAR AS REQUIRED
  3. STANDARD CHANNEL LENGTH IS 8'-0" (96")
  4. STANDARD CHANNEL SLOPE IS 0.5%

- FINISH SPECIFICATION**
1. GRATE FRAME: BLACK PAINT - STANDARD
  2. DUCTILE IRON GRATE - #EG-0424-1DI-ADA ADA COMPLIANT

**TRENCH DRAIN DETAIL**

NOT TO SCALE



- NOTES:**
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION
  2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
  3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
  4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm), 6" (150mm) FOR 30"-60" (750mm-900mm).
  5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
  6. MINIMUM COVER: MINIMUM COVER, H, IN NON-Traffic APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

**RECOMMENDED MINIMUM TRENCH WIDTHS**

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

**MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS**

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

**MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS**

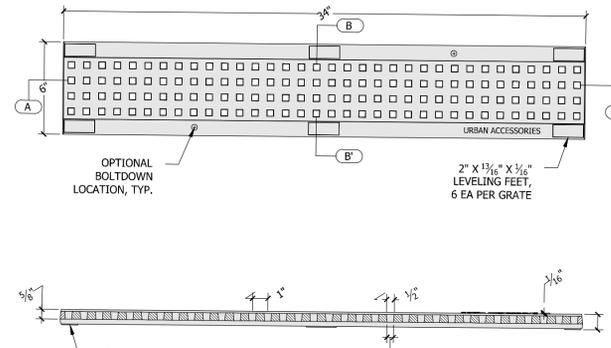
PIPE DIAM.	COOPER	
	E-80 **	E-80 ***
UP TO 24"	24"	24"
30"-36"	36"	36"
42"-60"	48"	48"

\*\* COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.  
\*\*\* E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

**TYPICAL TRENCH DETAIL**

REV	DESCRIPTION	BY	DATE	CHKD
2	ADDED E-80 INFORMATION	TJR	08/2007	

DATE PLOTTED: 10/18/08  
DRAWING NUMBER: STD-101  
ADVANCED DRAINAGE SYSTEMS, INC. 4660 TRUEMAN BLVD. HILLIAND, OHIO 43026  
SCALE: 1/8" = 1'-0"



**TRENCH DRAIN GRATE**

NOT TO SCALE

- NOTES:**
1. PROVIDE ADA ACCESSIBLE URBAN ACCESSORIES TRENCH DRAIN OR APPROVED EQUAL.

**OWNER**  
DGS (DEPARTMENT OF GENERAL SERVICES)  
2000 14TH STREET, NW, 8TH FLOOR  
WASHINGTON, DC 20009

**ARCHITECT**  
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WASHINGTON, DC 20002  
T: (202) 289-4545 F: (202) 289-5051  
AMT PROJECT #103-506

**ENGINEER'S CERTIFICATE**

HERBERT J. COOPER, P.E.  
REGISTERED PROFESSIONAL ENGINEER  
No. 9329  
DISTRICT OF COLUMBIA  
STATE BOARD OF PROFESSIONAL ENGINEERS

DATE: 10/18/08  
PROJECT: 103-506  
SHEET: NTS  
SCALE: 1/8" = 1'-0"

**SUBMISSION SCHEDULE** DATE

**CONSTRUCTION DOCUMENTS SET** 9/21/15

**REVISION SCHEDULE** DATE

**PROJECT:**

**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

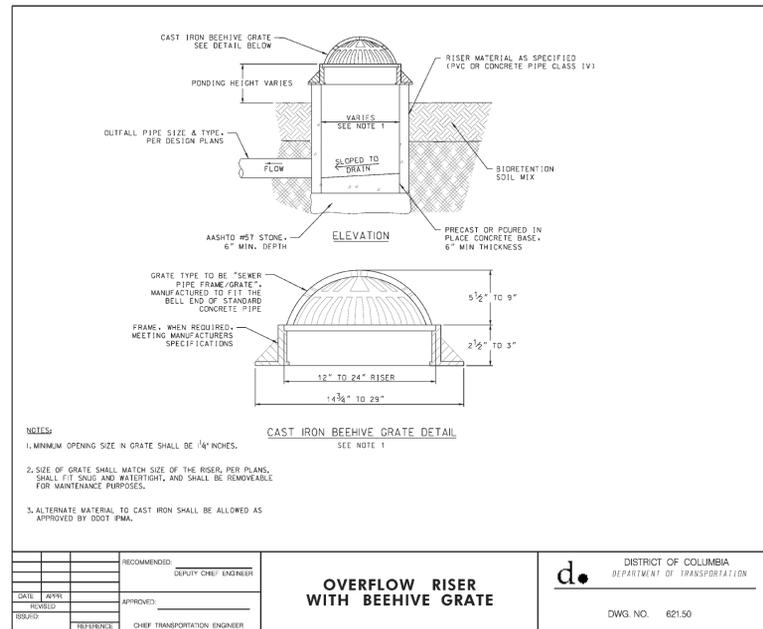
1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

**SHEET TITLE:**  
**STORMWATER MANAGEMENT DETAILS**

PROJECT NO: 113-506  
9/21/2015  
SCALE: N/A  
SHEET NO:

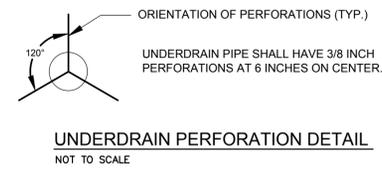
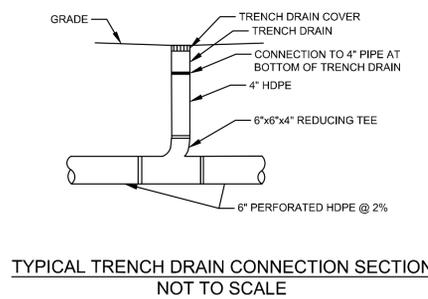
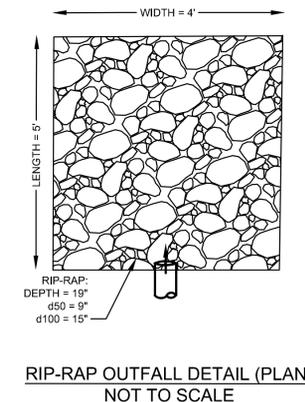
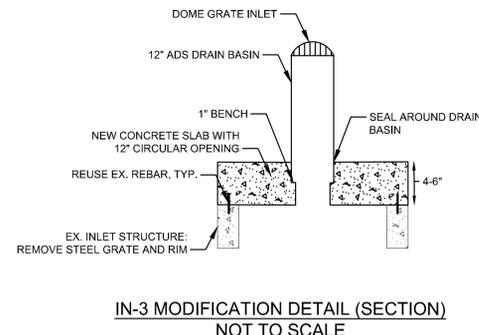
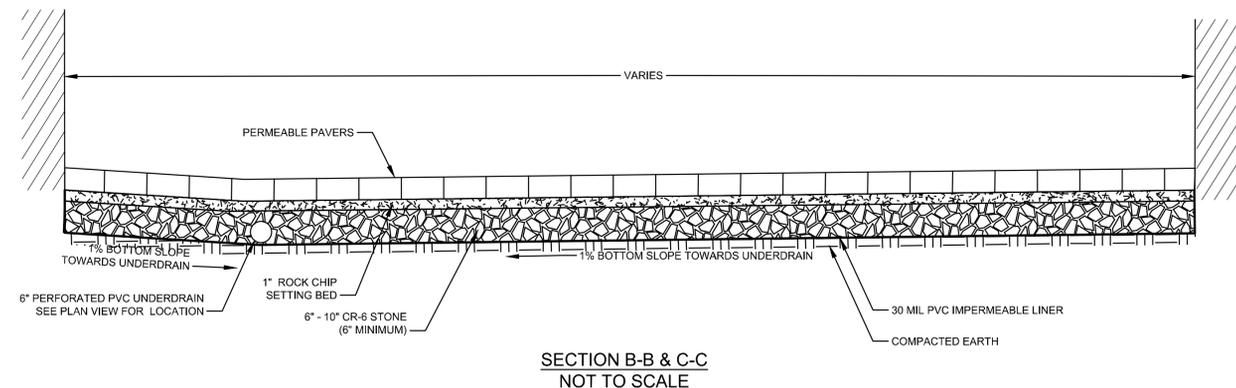
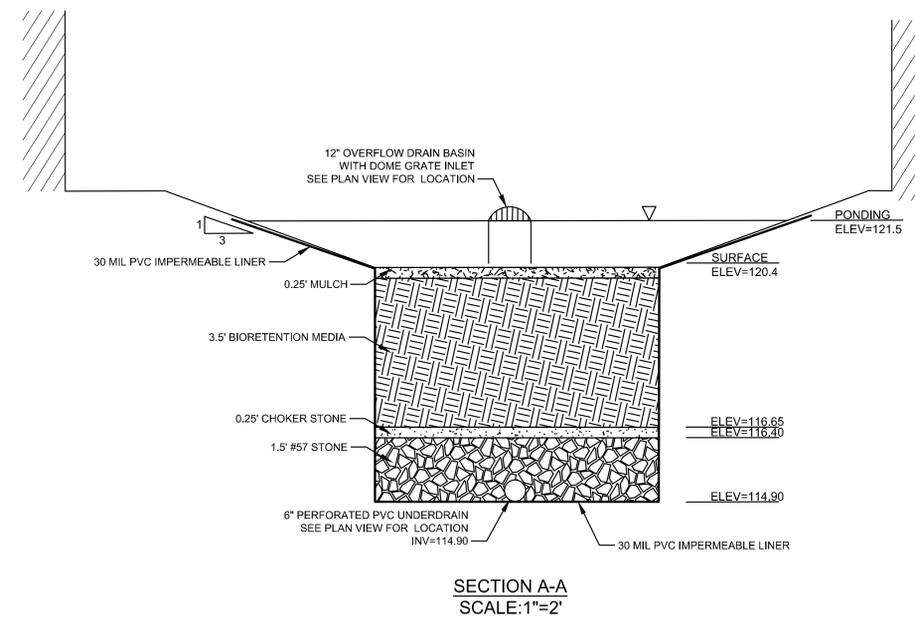
**C-6.1**

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**OVERFLOW RISER WITH BEEHIVE GRATE**

DISTRICT OF COLUMBIA  
DEPARTMENT OF TRANSPORTATION  
DWG. NO. 621.50



OWNER:  
**DGS**  
DGS (DEPARTMENT OF GENERAL SERVICES)  
2000 14TH STREET, NW, 8TH FLOOR  
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ARCHITECT:  
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WASHINGTON, DC 20002  
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AMT PROJECT #103-506



SUBMISSION SCHEDULE DATE  
CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE DATE

PROJECT:

**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE:  
**STORMWATER MANAGEMENT DETAILS**

PROJECT NO: 113-506

9/21/2015

SCALE: N/A

SHEET NO:



Bioretention	
<b>Step 1: Define the Drainage Area</b>	
Total Drainage Area (SA) =	8854 SF
Total Impervious Area (A <sub>i</sub> ) =	1890 SF = 21.35%
Impervious Area Vehicle Accessible =	
Total Compacted Cover Area (A <sub>c</sub> ) =	6701 SF = 75.68%
Total Natural Cover Area (A <sub>n</sub> ) =	0 SF = 0.00%
<b>Step 2: Calculate Maximum Stormwater Retention Volume (SWR<sub>v</sub>)</b>	
Maximum Storm Event (P) =	1.7 in.
Target SWR <sub>v</sub> =	492 CF = 3678 GAL
<b>Step 3: Calculate Storage Volume Provided</b>	
Facility Surface Area, SA =	263 SF
Depth of Media (d <sub>MEDIA</sub> ) =	3.5 FT
Max. Allowed Media Depth =	5.5 FT
Depth of Gravel (d <sub>GRAVEL</sub> ) =	1.5 FT
Subsurface Storage =	388 CF
Depth of Ponding =	1.00 FT
Ponding Storage =	411 CF
Storage Volume Provided (S <sub>v</sub> ) =	799 CF = 5976 GAL
Will Underdrains be Provided?	YES
SWRV Credited =	479 CF = 3586 GAL

**BIORETENTION CALCULATIONS**

$$SWR_v = \frac{P \times [(R_{VI} \times \%I) + (R_{VC} \times \%C) + (R_{VN} \times \%N)] \times SA}{12} \times 7.48$$

$R_{VI} = 0.95$   
 $R_{VC} = 0.25$   
 $R_{VN} = 0$   
 7.48 = Conversion Factor from CF to GAL  
 12 = Conversion Factor from IN to FT

Storage Volume = SA x [(d<sub>MEDIA</sub> x n<sub>MEDIA</sub>) + (d<sub>GRAVEL</sub> x n<sub>GRAVEL</sub>)] + PONDING STORAGE

where: n<sub>MEDIA</sub> = 0.25  
n<sub>GRAVEL</sub> = 0.40

Bioretention		Ponding Area-Elevation Storage Curve	
Elevation (ft)	Area (sf)	Inc. Vol (cf)	Cum. Vol (cf)
120.50	263	0	0
121.50	559	411	411

Site Address	1000 Mount Olivet Road NE	Plan number	4864
Stormwater Management Plan?	Yes	Green Area Ratio?	No - GAR does not apply to this property
Soil Erosion and Sediment Control?	Yes	Floodplain Review?	No
Type of Activity	Major Land Disturbing	AWDZ?	Non-AWDZ site located within AWDZ boundaries
Is the entire site in the CSS?	Yes		

	Total Area (sf)	Site Area	PROW
Natural	0	0	
Compacted	6,964	6,964	
Impervious	1,627	1,627	
BMP	263	263	
Total	8,854	8,854	

	Curve Numbers
<input type="checkbox"/> Detention requirements calculated with rational method?	
Pre-development	70 2-year storm adjusted CN
Pre-project	0 15-year storm adjusted CN 0
	100-year storm adjusted CN 0

Requirements Summary	(total is the sum of PROW and Parcel)	PROW (ft <sup>3</sup> )	Parcel (ft <sup>3</sup> )	Total (ft <sup>3</sup> )	Total (Gallons)
SWR <sub>v</sub>		354	354	2,645	
WQTV		0	0	0	
On-site retention achieved		479	479	3,586	
On-site treatment achieved		22	22	162	
% of SWR <sub>v</sub> met on-site		136%	135.56%	135.56%	
SRC eligibility (all numbers in gallons)					941
Offv					0

**STORMWATER MANAGEMENT PLAN COMPLIANCE DATA**

Site Drainage Area ID	Public Right of Way	Total area (square feet)	Natural (square feet)	Compacted (square feet)	Impervious (square feet)	BMP (square feet)	Vehicular access area	SWR <sub>v</sub> (cubic feet)	WQTV (cubic feet)	Volume retained (cubic feet)	Volume treated (cubic feet)	2-year storm adjusted Curve Number	15-year storm adjusted Curve Number	100-year storm adjusted Curve Number	Compliant
4864-1	<input type="checkbox"/>	8,854		6,964	1,627	263		354		479	22				N/A

**SITE DRAINAGE AREA COMPLIANCE DATA**

BMP ID number	Type	Total CDA (square feet)	Natural (square feet)	Compacted (square feet)	Impervious (square feet)	BMP (square feet)	Total Post project vehicular access area	Volume received from upstream BMPs (cubic feet)	Max volume received by BMP (cubic feet)	Storage volume (cubic feet)	Retention calculation	Volume retained (cubic feet)	Volume treated (cubic feet)	Downstream BMP ID Numbers
4864-1-1	Traditional bioretention - Standard	8,854		6,964	1,627	263			501	799	60% of storage volume	479	22	

**SITE BMP COMPLIANCE DATA**

**DRAW DOWN CALCULATIONS**

$$t = (d \times n \times 2) / i$$

t = MAXIMUM DRAWDOWN TIME (days)  
 d = DEPTH OF RESERVOIR LAYER (ft)  
 n = VOID RATIO  
 i = INFILTRATION RATE (ft/day)  
 i = 3 in/hr x 1ft/12in x 24hr/day = 6 ft/day  
 $t = (1.486 \times 0.35 \times 2) / 6 = 0.165 \text{ days} \times 24 \text{ hr/day} = 4 \text{ hr}$

OWNER  
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 www.mgeengineers.com

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**AMT**  
 10 G STREET, NE, SUITE # 430  
 WASHINGTON, DC 20002  
 T: (202) 289-4545 F: (202) 289-5051  
 AMT PROJECT #103-506

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THE WORK DESCRIBED HEREIN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION CONTAINED HEREIN.  
 J. J. J. J.  
 PROFESSIONAL ENGINEER

SUBMISSION SCHEDULE \_\_\_\_\_ DATE \_\_\_\_\_  
 CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT:  
**DYRS-YOUTH SERVICES CENTER COURTYARD RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
 WASHINGTON, DC 20002

SHEET TITLE:  
**STORMWATER MANAGEMENT CALCULATIONS**

PROJECT NO: 113-506

9/21/2015

SCALE: N/A

SHEET NO:

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3.5.5 Permeable Pavement Landscaping Criteria

Permeable pavement does not have any landscaping needs associated with it. However, large-scale permeable pavement applications should be carefully planned to integrate the typical landscaping features of a parking lot, such as trees and islands, in a manner that maximizes runoff treatment and minimizes the risk that sediment, mulch, grass clippings, leaves, nuts, and fruits will inadvertently clog the paving surface. Bioretention areas (see Section 3.6 Bioretention) may be a good design option to meet these needs.

3.5.6 Permeable Pavement Construction Sequence

Experience has shown that proper installation is absolutely critical to the effective operation of a permeable pavement system.

**Soil Erosion and Sediment Controls.** The following soil erosion and sediment control guidelines must be followed during construction:

- All permeable pavement areas must be fully protected from sediment intrusion by silt fence or construction fencing, particularly if they are intended to infiltrate runoff.
- Permeable pavement areas intended to infiltrate runoff must remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment and loss of design infiltration rate (unless the area has been determined to have a low CBR and will require compaction during the permeable pavement construction phase). Where it is infeasible to keep the proposed permeable pavement areas outside of the limits of disturbance, there are several possible outcomes for the impacted area.
  - If excavation in the proposed permeable pavement areas can be restricted then remediation can be achieved with deep tilling practices. This is only possible if in-situ soils are not disturbed any deeper than 2 feet above the final design elevation of the bottom of the aggregate reservoir course. In this case, when heavy equipment activity has ceased, the area is excavated to grade, and the impacted area must be tilled to a depth of 12 inches below the bottom of the reservoir layer.
  - Alternatively, if it is infeasible to keep the proposed permeable pavement areas outside of the limits of disturbance, and excavation of the area cannot be restricted cannot be met, then infiltration tests will be required prior to installation of the permeable pavement to ensure that the design infiltration rate is still present. If tests reveal the loss of design

DDOE PERMEABLE PAVEMENT MAINTNANCE CRITERIA

3.5.7 Permeable Pavement Maintenance Criteria

Maintenance is a required and crucial element to ensure the long-term performance of permeable pavement. The most frequently cited maintenance problem is surface clogging caused by organic matter and sediment. Periodic street sweeping will remove accumulated sediment and help prevent clogging; however, it is also critical to ensure that surrounding land areas remain stabilized.

The following tasks must be avoided on ALL permeable pavements:

- Sanding
- Re-sealing
- Re-surfacing
- Power washing
- Storage of snow piles containing sand
- Storage of mulch or soil materials
- Construction staging on unprotected pavement

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. The frequency of maintenance will depend largely on the pavement use, traffic loads, and the surrounding land use.

One preventative maintenance task for large-scale applications (e.g., parking lots) involves vacuum sweeping on a frequency consistent with the use and loadings encountered in the site.

infiltration rates then deep tilling practices may be used in an effort to restore those rates. In this case further testing must be done to establish design rates exist before the permeable pavement can be installed.

- Finally, if it is infeasible to keep the proposed permeable pavement areas outside of the limits of disturbance, and excavation of the area cannot be restricted, and infiltration tests reveal design rates cannot be restored, then a resubmission of the SWMP will be required.
- Permeable pavement areas must be clearly marked on all construction documents and grading plans.
- During construction, care should be taken to avoid tracking sediments onto any permeable pavement surface to avoid post construction clogging and long term maintenance issues.
- Any area of the site intended ultimately to be a permeable pavement area with an infiltration component must not be used as the site of a temporary sediment trap or basin. If locating a temporary sediment trap or basin on an area intended for permeable pavement is unavoidable, the outcomes are parallel to those discussed for heavy equipment compaction.
  - If it is possible to restrict the invert of the sediment trap or basin at least 1 foot above the final design elevation of the bottom of the aggregate reservoir course of the proposed permeable pavement then remediation can be achieved with proper removal of trapped sediments and deep tilling practices.
  - An alternate approach to deep tilling is to use an impermeable liner to protect the in-situ soils from sedimentation while the sediment trap or basin is in use.
  - In each case, all sediment deposits in the excavated area must be carefully removed prior to installing the sub-base, base, and surface materials. The plan must also show the proper procedures for converting the temporary sediment control practice to a permeable pavement BMP, including dewatering, cleanout, and stabilization.

DDOE BIORETENTION MATERIAL SPECIFICATIONS

Soil Media Criterion	Description	Standard(s)
General Composition	Soil media must have the proper proportions of sand, fines, and organic matter to promote plant growth, drain at the proper rate, and filter pollutants	80% to 90% sand (75% of which is coarse or very coarse); 10% to 20% soil fines; maximum of 10% clay; and 7% to 9% organic matter
Sand	Silica based coarse aggregate <sup>2</sup>	Sieve Type Particle Size (mm) Percent Passing (%)
		3/8 in. 9.50 100 No. 4 4.75 95-100 No. 8 2.36 80-100 No. 16 1.18 45-85 No. 30 0.6 15-60 No. 50 0.3 3-15 No. 100 0.15 0-4
Top Soil	Loamy sand or sandy loam	USDA Textural Triangle
Organic Matter	Well-aged, clean compost	Appendix 7
P-Index or Phosphorus (P) Content	Soil media with high P levels will export P through the media and potentially to downstream conveyances or receiving waters	P content = 5 to 15 mg/kg (Mehlich I) or 18 to 40 mg/kg (Mehlich III)
Cation Exchange Capacity (CEC)	The CEC is determined by the amount of soil fines and organic matter. Higher CEC will promote pollutant removal	CEC > 5 milliequivalents per 100 grams

<sup>1</sup>Many specifications for sand refer to ASTM C-33. The ASTM C-33 specification allows a particular size distribution that contains a large fraction of fines (silts and clay sized particles < 0.05 mm). The smaller fines fill the voids between the larger sand sized particles, resulting in smaller and more convoluted pore spaces. While this condition provides a high degree of treatment, it also encourages clogging of the remaining void spaces with suspended solids and biological growth, resulting in a greater chance of a restrictive biofilm forming. By limiting the fine particles allowed in the sand component, the combined media recipe of sand and the fines associated with the soil and organic material will be less prone to clogging, while also providing an adequate level of filtration and retention.

Table 3.22 Bioretention Material Specifications

Material	Specification	Notes
Filter Media	See Table 3.20	Minimum depth of 24 inches (18 inches for small-scale practices) To account for settling/compaction, it is recommended that 10% of the plan volume be utilized.
Mulch Layer	Use aged, shredded hardwood bark mulch	Lay a 2 to 3-inch layer on the surface of the filter bed.
Alternative Surface Cover	Use river stone or pea gravel, coir and jute matting, or turf cover	Lay a 2 to 3-inch layer of to suppress weed growth.
Top Soil For Turf Cover	Loamy sand or sandy loam texture, with less than 5% clay content, pH corrected to between 6 and 7, and an organic matter content of at least 2%.	3-inch filled into surface layer.
Geotextile or Choking Layer	An appropriate geotextile fabric that complies with ASTM M-288 Class 2, latest edition, requirements and has a permeability of at least an order of magnitude higher (10x) than the soil subgrade permeability must be used	Can use in place of the choking layer where the depth of the practice is limited. Geotextile fabric may be used on the sides of bioretention areas, as well.
Underdrain stone	1-inch diameter stone must be double-washed and clean and free of all fines (e.g., ASTM D48 No. 57 or smaller stone).	At least 2 inches above and below the underdrain.
Storage Layer (optional)	To increase storage for larger storm events, chambers, perforated pipe, stone, or other acceptable material can be incorporated below the filter media layer	
Impermeable Liner (optional)	Where appropriate, use a thirty mil (minimum) PVC Geomembrane liner	
Underdrains, Cleanouts, and Observation Wells	Use 4- or 6-inch rigid schedule 40 PVC pipe, or equivalent corrugated HDPE for small bioretention BMPs, with 3/8-inch perforations at 6 inches on center. Multiple underdrains are necessary for bioretention areas wider than 40 feet, and each underdrain must be located no more than 20 feet from the next pipe or the edge of the bioretention.	Lay the perforated pipe under the length of the bioretention cell, and install non-perforated pipe as needed to connect with the storm drain system or to daylight in a stabilized conveyance. Install T's and Y's as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface.
Plant Materials	See Section 3.6.3 Bioretention Landscaping Criteria	Establish plant materials as specified in the landscaping plan and the recommended plant list.

**Signage.** Bioretention units in highly urbanized areas should be stenciled or otherwise permanently marked to designate it as a structural BMP. The stencil or plaque should indicate (1) its water quality purpose, (2) that it may pond briefly after a storm, and (3) that it is not to be disturbed except for required maintenance.

Many experts consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Typical maintenance tasks are outlined in Table 3.15.

Table 3.15 Typical Maintenance Tasks for Permeable Pavement Practices

Frequency	Maintenance Tasks
After installation	For the first 6 months following construction, the practice and CDA should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization.
Once every 1–2 months during the growing season	Mow grass in grid paver applications
As needed	Stabilize the CDA to prevent erosion Remove any soil or sediment deposited on pavement Replace or repair any pavement surfaces that are degenerating or spalling
2–4 times per year (depending on use)	Mechanically sweep pavement with a standard street sweeper to prevent clogging
Annually	Conduct a maintenance inspection Spot weed for grass applications
Once every 2–3 years	Remove any accumulated sediment in pretreatment cells and inflow points
If clogged	Conduct maintenance using a regenerative street sweeper or a vacuum sweeper Replace any necessary joint material

DDOE BIORETENTION CONSTRUCTION SPECIFICATIONS

3.6.6 Bioretention Construction Sequence

**Soil Erosion and Sediment Controls.** The following soil erosion and sediment control guidelines must be followed during construction:

- All Bioretention areas must be fully protected by silt fence or construction fencing.
- Bioretention areas intended to infiltrate runoff must remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment and loss of design infiltration rate.
  - Where it is infeasible keep the proposed bioretention areas outside of the limits of disturbance, there are several possible outcomes for the impacted area. If excavation in the proposed bioretention area can be restricted then the remediation can be achieved with deep tilling practices. This is only possible if in-situ soils are not disturbed any deeper than 2 feet above the final design elevation of the bottom of the bioretention. In this case, when heavy equipment activity has ceased, the area is excavated to grade, and the impacted area must be tilled to a depth of 12 inches below the bottom of the bioretention.
  - Alternatively, if it is infeasible to keep the proposed permeable pavement areas outside of the limits of disturbance, and excavation of the area cannot be restricted, then infiltration tests will be required prior to installation of the bioretention to ensure that the design infiltration rate is still present. If tests reveal the loss of design infiltration rates then deep tilling practices may be used in an effort to restore those rates. In this case further testing must be done to establish design rates exist before the permeable pavement can be installed.
  - Finally, if it is infeasible to keep the proposed bioretention areas outside of the limits of disturbance, and excavation of the area cannot be restricted, and infiltration tests reveal design rates cannot be restored, then a resubmission of the SWMP will be required.
- Bioretention areas must be clearly marked on all construction documents and grading plans.
- Large bioretention applications may be used as small sediment traps or basins during construction. However, these must be accompanied by notes and graphic details on the soil erosion and sediment control plan specifying that (1) the maximum excavation depth of the trap or basin at the construction stage must be at least 1 foot higher than the post-construction (final) invert (bottom of the facility), and (2) the facility must contain an underdrain. The plan must also show the proper procedures for converting the temporary sediment control practice to a permanent bioretention BMP, including dewatering, cleanout, and stabilization.

**Bioretention Installation.** The following is a typical construction sequence to properly install a bioretention basin. The construction sequence for micro-bioretention is more simplified. These steps may be modified to reflect different bioretention applications or expected site conditions.

**Step 1: Stabilize Drainage Area.** Construction of the bioretention area may only begin after the entire contributing drainage area has been stabilized with vegetation. It may be necessary to block certain curb or other inlets while the bioretention area is being constructed. The proposed site should be checked for existing utilities prior to any excavation.

**Step 2: Preconstruction Meeting.** The designer, the installer, and DDOE inspector must have a preconstruction meeting, checking the boundaries of the contributing drainage area and the actual inlet elevations to ensure they conform to original design. Since other contractors may be responsible for constructing portions of the site, it is quite common to find subtle differences in site grading, drainage and paving elevations that can produce hydraulically important differences for the proposed bioretention area. The designer should clearly communicate, in writing, any project changes determined during the preconstruction meeting to the installer and the inspector. Material certifications for aggregate, soil media and any geotextiles must be submitted for approval to the inspector at the preconstruction meeting.

**Step 3: Install Soil Erosion and Sediment Control Measures to Protect the Bioretention.** Temporary soil erosion and sediment controls (e.g., diversion dikes, reinforced silt fences) are needed during construction of the bioretention area to divert stormwater away from the bioretention area until it is completed. Special protection measures, such as erosion control fabrics, may be needed to protect vulnerable side slopes from erosion during the construction process.

**Step 4: Install Pretreatment Cells.** Any pretreatment cells should be excavated first and then sealed to trap sediment.

**Step 5: Avoid Impact of Heavy Installation Equipment.** Excavators or backhoes should work from the sides to excavate the bioretention area to its appropriate design depth and dimensions. Excavating equipment should have scoops with adequate reach so they do not have to sit inside the footprint of the bioretention area. Contractors should use a cell construction approach in larger bioretention basins, whereby the basin is split into 500- to 1,000-square foot temporary cells with a 10- to 15-foot earth bridge in between, so that cells can be excavated from the side.

**Step 6: Promote Infiltration Rate.** It may be necessary to rip the bottom soils to a depth of 6 to 12 inches to promote greater infiltration.

**Step 7: Order of Materials.** If using a geotextile fabric, place the fabric on the sides of the bioretention area with a 6-inch overlap on the sides. If a stone storage layer will be used, place the appropriate depth of No. 57 stone (clean double washed) on the bottom, install the perforated underdrain pipe, pack No. 57 stone to 3 inches above the underdrain pipe, and add the choking layer or appropriate geotextile layer as a filter between the underdrain and the soil media layer. If no stone storage layer is used, start with 6 inches of No. 57 stone on the bottom and proceed with the layering as described above.

**Step 8: Layered Installation of Media.** Apply the media in 12-inch lifts until the desired top elevation of the bioretention area is achieved. Wait a few days to check for settlement and add additional media, as needed, to achieve the design elevation.

DDOE BIORETENTION MAINTENANCE SPECIFICATIONS

3.6.7 Bioretention Maintenance Criteria

When bioretention practices are installed, it is the owner's responsibility to ensure they, or those managing the practice, (1) be educated about their routine maintenance needs, (2) understand the long-term maintenance plan, and (3) be subject to a maintenance covenant or agreement, as described below.

Maintenance of bioretention areas should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique bioretention landscaping needs, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, and limited use of fertilizers and pesticides.

Maintenance tasks and frequency will vary depending on the size and location of the bioretention, the landscaping template chosen, and the type of surface cover in the practice. A generalized summary of common maintenance tasks and their frequency is provided in Table 3.25.

Table 3.25 Typical Maintenance Tasks for Bioretention Practices

Frequency	Maintenance Tasks
Upon establishment	For the first 6 months following construction, the practice and CDA should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover. One-time, spot fertilization may be needed for initial plantings. Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall. Remove and replace dead plants. Up to 10% of the plant stock may die off in the first year, so construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction.
At least 4 times per year	Mow grass filter strips and bioretention with turf cover Check curb cuts and inlets for accumulated grit, leaves, and debris that may block inflow
Twice during growing season	Spot weed, remove trash, and rake the mulch
Annually	Conduct a maintenance inspection Supplement mulch in devoid areas to maintain a 3 inch layer Prune trees and shrubs Remove sediment in pretreatment cells and inflow points
Once every 2–3 years	Remove sediment in pretreatment cells and inflow points Remove and replace the mulch layer
As needed	Add reinforcement planting to maintain desired vegetation density Remove invasive plants using recommended control methods Remove any dead or diseased plants Stabilize the contributing drainage area to prevent erosion

Standing water is the most common problem outside of routine maintenance. If water remains on the surface for more than 72 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter. These are listed below, starting with the simplest approach and ranging to more involved procedures (i.e., if the simpler actions do not solve the problem).

- Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be cleaned out.
- Remove accumulated sediment and fill 2 to 3 inches of sand into the upper 6 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. This reduces the average concentration of fines in the media bed and promotes quicker drawdown times. Sand wicks can be installed by excavating or auguring (i.e., using a tree auger or similar tool) down to the top of the underdrain layer to create vertical columns which are then filled with a clean open-graded coarse sand material (e.g., ASTM C-33 concrete sand or similar approved sand mix for bioretention media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Remove and replace some or all of the soil media.

**Maintenance Inspections.** It is recommended that a qualified professional conduct a spring maintenance inspection and cleanup at each bioretention area. Maintenance inspections should include information about the inlets, the actual bioretention facility (sediment buildup, outlet conditions, etc.) and the state of vegetation (water stressed, dead, etc.) and are intended to highlight any issues that need or may need attention to maintain stormwater management functionality.

DDOE's maintenance inspection checklists for bioretention areas and the Maintenance Service Completion Inspection form can be found in Appendix L.

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SUBMISSION SCHEDULE DATE

CONSTRUCTION DOCUMENTS SET 9/21/15

REVISION SCHEDULE DATE

PROJECT:

**DYRS-YOUTH SERVICES  
CENTER COURTYARD  
RENOVATIONS**

1000 MOUNT OLIVET ROAD, NE  
WASHINGTON, DC 20002

SHEET TITLE: **STORMWATER  
MANAGEMENT  
MAINTENANCE  
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PROJECT NO: 113-506

9/21/2015

SCALE: 1 IN. = 10 FT.

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